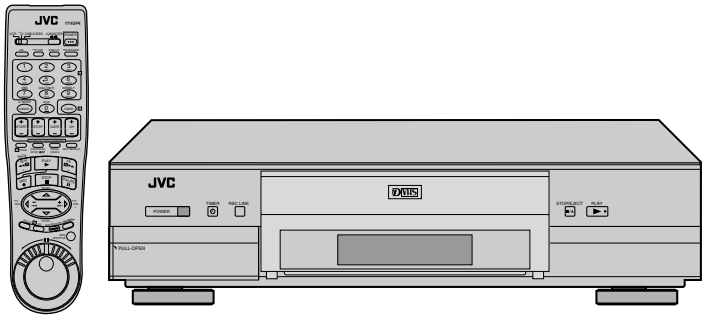
JVC

SERVICE MANUAL

D-VHS DIGITAL RECORDER

HM-DH30000U



SPECIFICATIONS

GENERAL

Power requirement	: AC 120 V∿, 60 Hz
Power consumption	
Power on	: 55 W
Power off	: 18 W
Temperature	
Operating	: 5°C to 40°C (41°F to 104°F)
Storage	: –20°C to 60°C (–4°F to140°F)
Operating position	: Horizontal only
Dimensions (W x H x D)	: 435 mm x 105 mm x 383 mm (17-3/16" x 4-3/16" x 15-1/8")
Weight	: 5.7 kg (12.6 lbs)
Maximum recording time	
D-VHS (HS)	: 210 min. with DF-420 video cassette
D-VHS (STD)	: 420 min. with DF-420 video cassette
D-VHS (LS3)	: 1260 min. with DF-420 video cassette
S-VHS/VHS (SP)	: 210 min. with ST-210 video cassette
S-VHS/VHS (EP)	: 630 min. with ST-210 video cassette

VIDEO/AUDIO (D-VHS)

Video format	: MPEG2 standard
Audio format	: Encode MPEG1 Layer2 Decode MPEG1 Layer2 Dolby Digital
Track composition	
Tape speed	: 33.4 mm/sec (HS mode) 16.67 mm/sec (STD mode) 5.55 mm/sec (LS3 mode)
Head azimuth	: ±30 deg
Drum rotation	: 1800 rpm
Tracking system	: CTL track system
Recording specification	
Main data input rate	: 28.2 Mbps (HS mode) 14.1 Mbps (STD mode) 4.7 Mbps (LS3 mode)
Interface	: IEEE1394 compliant DTCP digital copy protection compatible

VIDEO/AUDIO (S-VHS/VHS)

Format	: S-VHS/VHS NTSC standard
Signal system	: NTSC-type color signal and EIA monochrome signal, 525 lines/60 fields
Recording/ Playback system	: DA-4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	: 45 dB
Frequency range	
Normal audio	: 70 Hz to 10,000 Hz
Hi-Fi audio	: 20 Hz to 20,000 Hz

TUNER

Tuning system	: Frequency-synthesized tuner
Channel coverage	
VHF	: Channels 2–13
UHF	: Channels 14–69
CATV	: 113 Channels

TIMER

Clock reference	: Quartz
Program capacity	: 1-year programmable timer/24 programs
Memory backup time	: Approx. 60 min.

CONNECTORS

Input/Output	: i.LINK IN/OUT, DV IN x 2 (4-pin, S200) RCA connectors (IN x 3, OUT x 2) S-video connectors (IN x 3, OUT x 2) Component video OUT (Y, P_B/C_B, P_R/C_R) x 1 Digital OUT (optical) x 1

ACCESSORIES

Provided accessories	: Infrared remote control unit, “AA” battery x 2, Audio cable, RF cable (F-type), S-video cable (4-pin), Controller

■ Manufactured under license from Dolby Laboratories.
"Dolby", "Pro Logic", and the double-D symbol are trademarks of Dolby Laboratories. Confidential unpublished works. Copyright 1992-1997 Dolby Laboratories. All rights reserved.

Specifications shown are for SP mode unless specified otherwise.
E. & O.E. Design and specifications subject to change without notice.

This service manual is printed on 100% recycled paper.
COPYRIGHT © 2001 VICTOR COMPANY OF JAPAN, LTD.
No. 82894
August 2001

TABLE OF CONTENTS

Section	Title	Page
Important Safety Precautions		
INSTRUCTIONS		
1. DISASSEMBLY		
1.1	Disassembly flow chart	1-1
1.2	How to read the disassembly and assembly	1-1
1.3	Disassembly/assembly method	1-1
1.4	Service position	1-5
1.4.1	How to set the “Service position”	1-5
1.4.2	Precautions for cassette loading in the “Service position”	1-5
1.4.3	Cassette loading and ejection methods in the “Service position”	1-5
1.5	Mechanism service mode	1-6
1.5.1	How to set the “Mechanism service mode”	1-6
1.6	Jig RCU mode	1-6
1.6.1	Setting the Jig RCU mode	1-6
1.6.2	Setting the User RCU mode	1-6
1.7	Opening on the chassis	1-6
1.8	Emergency display function	1-7
1.8.1	Displaying the EMG information	1-7
1.8.2	Clearing the EMG history	1-7
1.8.3	EMG content description	1-8
1.8.4	EMG detail information <1>	1-9
1.8.5	EMG detail information <2>	1-10
2. MECHANISM ADJUSTMENT		
2.1	Before starting repair and adjustment	2-1
2.1.1	Precautions	2-1
2.1.2	Checking for proper mechanical operations	2-1
2.1.3	Manually removing the cassette tape	2-1
2.1.4	Jigs and tools required for adjustment	2-2
2.1.5	Maintenance and inspection	2-3
2.2	Replacement of major parts	2-6
2.2.1	Before starting disassembling (Phase matching between mechanical parts)	2-6
2.2.2	How to set the “Mechanism assembling mode”	2-6
2.2.3	Cassette holder assembly	2-6
2.2.4	Pinch roller arm assembly	2-8
2.2.5	Guide arm assembly and press lever assembly	2-8
2.2.6	A/C head	2-8
2.2.7	Loading motor	2-8
2.2.8	Capstan motor	2-9
2.2.9	Pole base assembly (supply or take-up side)	2-9
2.2.10	Rotary encoder	2-10
2.2.11	Clutch unit	2-10
2.2.12	Change lever assembly, direct gear, clutch gear and coupling gear	2-10
2.2.13	Link lever	2-11
2.2.14	Cassette gear, control cam and worm gear	2-11
2.2.15	Control plate	2-11
2.2.16	Loading arm gear (supply or take-up side) and loading arm gear shaft	2-12
2.2.17	Take-up lever, take-up head and control plate guide	2-13
2.2.18	Capstan brake assembly	2-13
2.2.19	Sub brake assembly (take-up side)	2-13
2.2.20	Main brake assembly (take-up side), reel disk (take-up side) and main brake assembly (supply side)	2-13
2.2.21	Tension brake assembly, reel disk (supply side) and tension arm assembly	2-14
2.2.22	Idler lever, idler arm assembly	2-14
2.2.23	Stator assembly	2-14
2.2.24	Rotor assembly	2-14
2.2.25	Upper drum assembly	2-15
2.3	Compatibility adjustment	2-16
2.3.1	FM waveform linearity	2-16
2.3.2	Height and tilt of the A/C head	2-17
2.3.3	A/C head phase (X-value)	2-17
2.3.4	Standard tracking preset	2-18
2.3.5	Tension pole position	2-18
3. ELECTRICAL ADJUSTMENT		
3.1	Precaution	3-1
3.1.1	Required test equipments	3-1
3.1.2	Required adjustment tools	3-1
3.1.3	Color (colour) bar signal,Color (colour) bar pattern	3-1
3.1.4	Switch settings and standard precautions	3-1
3.1.5	EVR Adjustment	3-1
3.2	Servo circuit	3-2
3.2.1	Switching point	3-2
3.2.2	D-VHS switching point	3-2
3.2.3	Slow tracking preset	3-2
3.3	Video circuit	3-3
3.3.1	D/A level	3-3
3.3.2	EE Y/PB Y (S-VHS/VHS) level	3-3
3.3.3	REC color (colour) level	3-3
3.3.4	Video EQ (Frequency response)	3-4
3.3.5	Auto picture initial setting	3-4
3.4	Audio circuit	3-4
3.4.1	Audio REC FM	3-4
3.5	Demodulator circuit	3-5
3.5.1	Input level	3-5
3.5.2	Stereo VCO	3-5
3.5.3	Stereo filter	3-5
3.5.4	Separation - 1	3-6
3.5.5	Separation - 2	3-6
3.5.6	SAP VCO	3-6
3.6	Digital circuit	3-6
3.6.1	D-VHS REC level	3-6
3.6.2	PLL f0	3-7
4. CHARTS AND DIAGRAMS		
NOTES OF SCHEMATIC DIAGRAM		4-1
CIRCUIT BOARD NOTES		4-2
4.1	BOARD INTERCONNECTIONS	4-3
4.2	REGULATOR AND SUB REGULATOR SCHEMATIC DIAGRAMS	4-5
4.3	MAIN (VIDEO/AUDIO) SCHEMATIC DIAGRAM	4-7
4.4	MAIN (SYSCON) SCHEMATIC DIAGRAM	4-9
4.5	MAIN (TUNER/DEMOD) SCHEMATIC DIAGRAM	4-11
4.6	MAIN (AUDIO I/O) SCHEMATIC DIAGRAM	4-13
4.7	MAIN (SYNCDET) SCHEMATIC DIAGRAM	4-15
4.8	MAIN (MAIN-TERMINAL) SCHEMATIC DIAGRAM	4-17
4.9	3D DIGITAL/4M SCHEMATIC DIAGRAM	4-19
4.10	TERMINAL-NTSC SCHEMATIC DIAGRAM	4-21
4.11	S-SUB SCHEMATIC DIAGRAM	4-23
4.12	DISPLAY, REC SAFETY/D.CASS SW AND JACK SCHEMATIC DIAGRAMS	4-25
4.13	D-PRE/REC SCHEMATIC DIAGRAM	4-27
4.14	DIGITAL(HOST) SCHEMATIC DIAGRAM	4-29
4.15	DIGITAL(DMAIN) SCHEMATIC DIAGRAM	4-31
4.16	DIGITAL(D-VHS IF) SCHEMATIC DIAGRAM	4-33
4.17	DIGITAL(DVX) SCHEMATIC DIAGRAM	4-35
4.18	DIGITAL(VIDEO IF) SCHEMATIC DIAGRAM	4-37
4.19	DIGITAL(HD DEC) SCHEMATIC DIAGRAM	4-39
4.20	DIGITAL(LAPRAS) SCHEMATIC DIAGRAM	4-41
4.21	DIGITAL(DSP) SCHEMATIC DIAGRAM	4-43
4.22	DIGITAL(AUDIO AD/DA) SCHEMATIC DIAGRAM	4-45
4.23	DIGITAL(DECRIPTER) SCHEMATIC DIAGRAM	4-47
4.24	REGULATOR AND SUB REGULATOR CIRCUIT BOARDS	4-49
4.25	3D DIGITAL/4M AND S-SUB CIRCUIT BOARDS	4-51
4.26	TERMINAL CIRCUIT BOARD	4-52
4.27	DISPLAY, REC SAFETY AND JACK CIRCUIT BOARDS	4-53
4.28	D-PRE/REC CIRCUIT BOARD	4-55
4.29	DIGITAL CIRCUIT BOARD	4-57
4.30	MAIN CIRCUIT BOARD	4-61
4.31	VOLTAGE CHARTS	4-64
4.32	FDP GRID ASSIGNMENT AND ANODE CONNECTION	4-65
4.33	REMOTE CONTROLLER SCHEMATIC DIAGRAM	3-66
4.34	WAVEFORMS	4-67
4.35	CPU PIN FUNCTION	4-68
4.36	SYSTEM CONTROL BLOCK DIAGRAM	4-69
4.37	AUDIO BLOCK DIAGRAM	4-71
4.38	VIDEO BLOCK DIAGRAM	4-73
4.39	D-VHS BLOCK DIAGRAM	4-77
5. PARTS LIST		
5.1	PACKING AND ACCESSORY ASSEMBLY <M1>	5-1
5.2	FINAL ASSEMBLY <M2>	5-2
5.3	MECHANISM ASSEMBLY <M4>	5-4
5.4	ELECTRICAL PARTS LIST	5-6
	SW.REG BOARD ASSEMBLY <01>	5-6
	SUB REG BOARD ASSEMBLY <02>	5-7
	MAIN BOARD ASSEMBLY <03>	5-8
	3D DIGITAL/4M BOARD ASSEMBLY <05>	5-14
	TERMINAL BOARD ASSEMBLY <06>	5-16
	A/C HEAD BOARD ASSEMBLY <12>	5-16
	S-SUB BOARD ASSEMBLY <15>	5-16
	DISPLAY BOARD ASSEMBLY <28>	5-17
	REC SAFETY BOARD ASSEMBLY <32>	5-18
	JACK BOARD ASSEMBLY <36>	5-18
	D-PRE/REC BOARD ASSEMBLY <43>	5-18
	DIGITAL BOARD ASSEMBLY <50>	5-22
	LOADING MOTOR BOARD ASSEMBLY <55>	5-32

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

● Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the ⚠ symbol and shaded ( ) parts are critical for safety.
   Replace only with specified part numbers.
   Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
   Caution for continued protection against fire hazard.
   Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:
   1) Wires covered with PVC tubing
   2) Double insulated wires
   3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:
   1) Insulation Tape 3) Spacers 5) Barrier
   2) PVC tubing 4) Insulation sheets for transistors

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

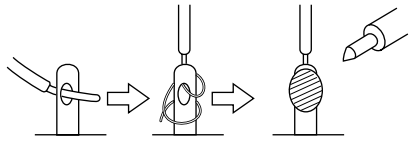


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

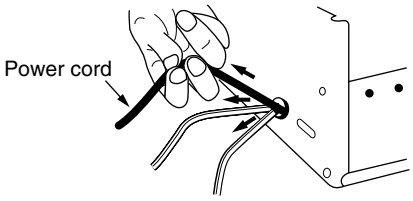


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)
    In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission.
    Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits.
    Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector
    In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

    1) Connector part number : E03830-001
    2) Required tool : Connector crimping tool of the proper type which will not damage insulated parts.
    3) Replacement procedure
    (1) Remove the old connector by cutting the wires at a point close to the connector.
    Important : Do not reuse a connector (discard it).

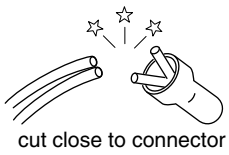


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

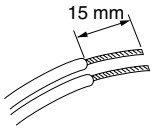


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

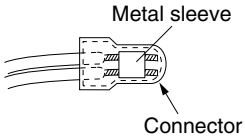


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.

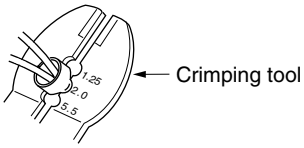


Fig.6

(5) Check the four points noted in Fig.7.

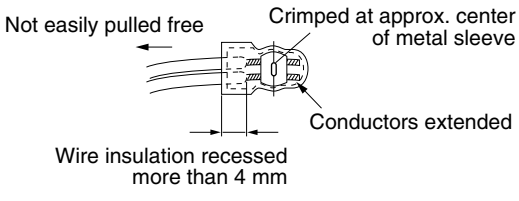

Not easily pulled free
Crimped at approx. center of metal sleeve
Conductors extended
Wire insulation recessed more than 4 mm

Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions, Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

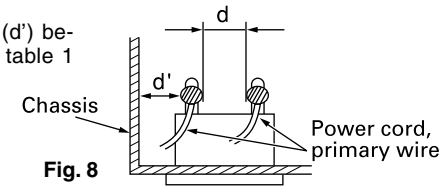


Fig. 8

4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method : (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

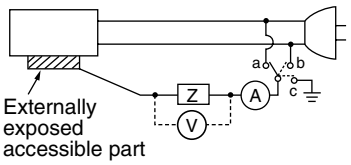


Fig. 9

5. Grounding (Class 1 model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.

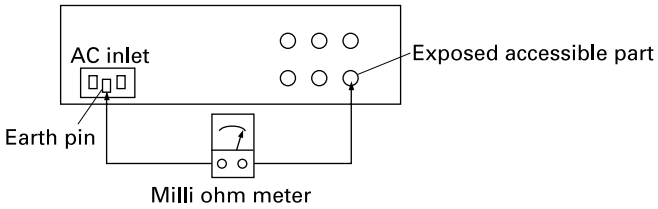


Fig. 10

Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	Z ≦ 0.1 ohm
Europe & Australia	Z ≦ 0.5 ohm

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	R ≧ 1 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3 mm
100 to 240 V			AC 1.5 kV 1 miute	d, d' ≧ 4 mm
110 to 130 V	USA & Canada	1 MΩ ≦ R ≦ 12 MΩ/500 V DC	AC 1 kV 1 minute	d, d' ≧ 3.2 mm
110 to 130 V 200 to 240 V	Europe & Australia	R ≧ 10 MΩ/500 V DC	AC 3 kV 1 minute (Class Ⅱ) AC 1.5 kV 1 minute (Class Ⅰ)	d ≧ 4 mm d' ≧ 8 mm (Power cord) d' ≧ 6 mm (Primary wire)

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	1 kΩ	i ≦ 1 mA rms	Exposed accessible parts
110 to 130 V	USA & Canada	0.15 μF, 1.5 kΩ	i ≦ 0.5 mA rms	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	2 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Antenna earth terminals
		50 kΩ	i ≦ 0.7 mA peak i ≦ 2 mA dc	Other terminals

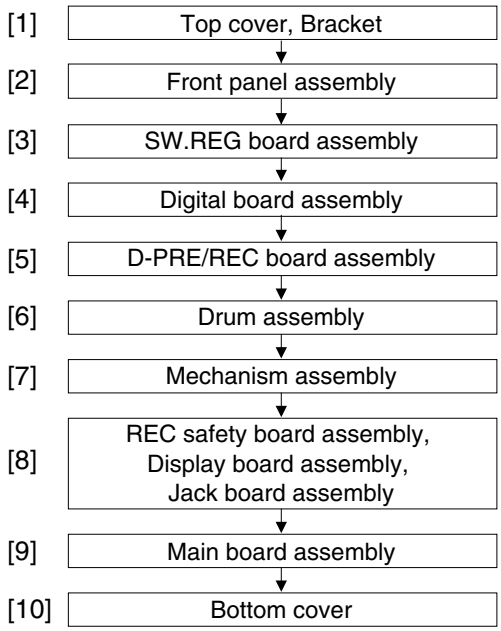
Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

SECTION 1
DISASSEMBLY

1.1 Disassembly flow chart

This flowchart lists the disassembling steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally laid.



1.2 How to read the disassembly and assembly

<Example>

Step/ Loc No.	Part Name	Fig. No.	Point	Note
[1]	Top cover, Bracket	D1	4(S1a),(S1b),3(L1a), 2(SD1a),(P1a),(W1a), CN1(WR1a), 2(S1c)	<Note 1a>

(1) (2) (3) (4) (5)

(1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) No. of parts Figures.
(2) Part name to be removed or installed.
(3) Fig. No. showing procedure or part location.
(4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered.
P= Spring, W= Washer, S= Screw, L= Locking tab, SD= Solder, CN**(WR**)= Remove the wire (WR**) from the connector (CN**).

Note:

- ***The bracketed ( ) WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.***

(5) Adjustment information for installation

1.3 Disassembly/assembly method

Step/ Loc No.	Part Name	Fig. No.	Point	Note
[1]	Top cover, Bracket	D1	2(S1a), 2(S1b), (S1c) 2(S1d)	
[2]	Front panel assembly	D2	CN8201(WR2a), 2(S2a), 4(L2a), 2(L2b), 3(L2c)	<Note 2a> <Note 2b>
[3]	SW.REG board assembly	D3	CN5302(WR3a), CN5502(WR3b), CN5504(WR3c), CN5303(WR3d), CN5503(WR3e), 2(S3a)	<Note 2a>
[4]	Digital board assembly	D4	CN601(WR4a), CN603(WR4b), CN8803(WR4c), CN9801(WR4d), CN8002(WR4e), 2(S4a), (S4b), Earth plate	<Note 2a> <Note 4a>
[5]	D-PRE/REC board assembly	D5	(S5a), L5a(WR5a), Shield case(PRE), CN606(WR5b), CN3011	<Note 2a> <Note 5a>
[6]	Drum assembly, (Inertia plate), (Roller arm assembly), (Cleaner assembly)	D6	CON1(WR6a), CN1(WR6b), (S6a), (S6b), (S6c) 4(L6a) (P6a), (L6b) (L6c)	<Note 2a> <Note 6a>
[7]	Mechanism assembly	D7	CN1(WR7a), (S7a), (S7b), (S7c), (S7d), S7e(WR7b), 2(L7a)	<Note 2a> <Note 7a>
[8]	REC safety board assembly, Display board assembly, Jack board assembly	D8	(S8a) CN7002(WR8a), 4(L8a) CN7191(WR8b)	<Note 2a> <Note 8a>
[9]	Main board assembly	D9	2(S9a)	
[10]	Bottom cover, (Foot(2)), (Foot assembly)	D10	 4(L10a) 4(L10b) (S10a), 2(S10b), 4(L10c), 3(L10d)	

<Note 2a>
- Be careful not to damage the connector and wire etc. during connection and disconnection.
- When connecting the flat wire to the connector, be careful with the wire direction.

<Note 2b>
- When reattaching the Front panel assembly, make sure that the door opener “a” of the Cassette holder assembly is lowered in position prior to the reinstallation.

<Note 4a>
- When securing the screw (S4b), be sure to attach the earth plate together it.

<Note 5a>
- When securing the screw (S5a), be sure to connect the lug wire (WR5a) together it.

<Note 6a>
- When installing the drum assembly, secure the screws (S6a to S6c) in the order of a,b,c.

<Note 7a>
- When it is required to remove the screws (S7a to S7b) retaining the Mechanism assembly, please refer to the “Procedures for Lowering the Cassette holder assembly”(See on page 1-2).
- When reattaching the Mechanism assembly to the Main board assembly, take care not to damage the sensors and switch on the Main board assembly.
- When removing the Mechanism assembly only, unhook the two spacers connecting it with the Main board assembly with pliers from the back side of the Main board assembly first, and then remove the Mechanism assembly.

<Note 8a>
- After removing the REC safety board assembly, remove the display board assembly.

Procedures for Lowering the Cassette holder assembly

As the mechanism of this unit is integrated with the Housing assembly, the holder must be lowered and the two screws unscrewed when removing the Mechanism assembly.

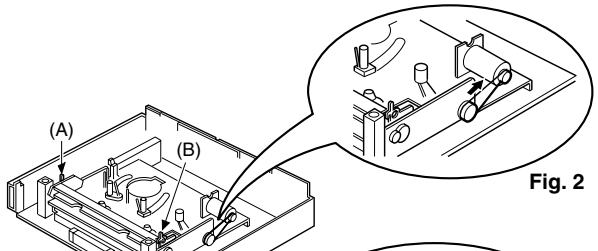


Fig. 1

Fig. 2

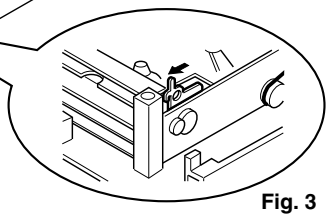


Fig. 3

Turn the loading motor pulley in the direction as indicated by Fig.2. As both (A) and (B) levers are lodged twice, push the levers in the direction as indicated by Fig.3 to release them. When pushing the levers, do it in the order of (A), (B), (B), (A). When the holder has been lowered, turn the pulley until the cassette holder is securely in place without allowing any up/down movement.

Procedures for Lowering the Cassette holder assembly

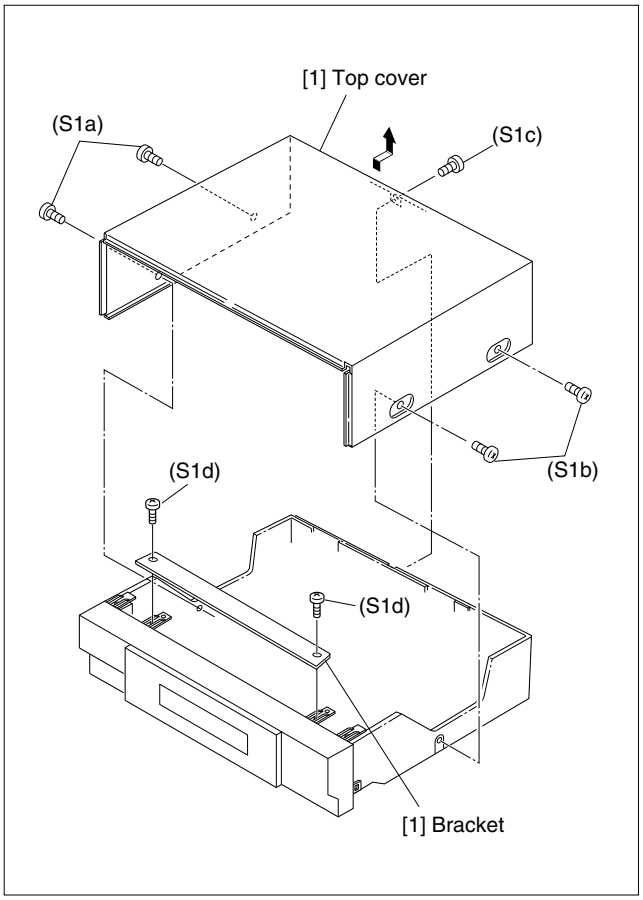


Fig. D1

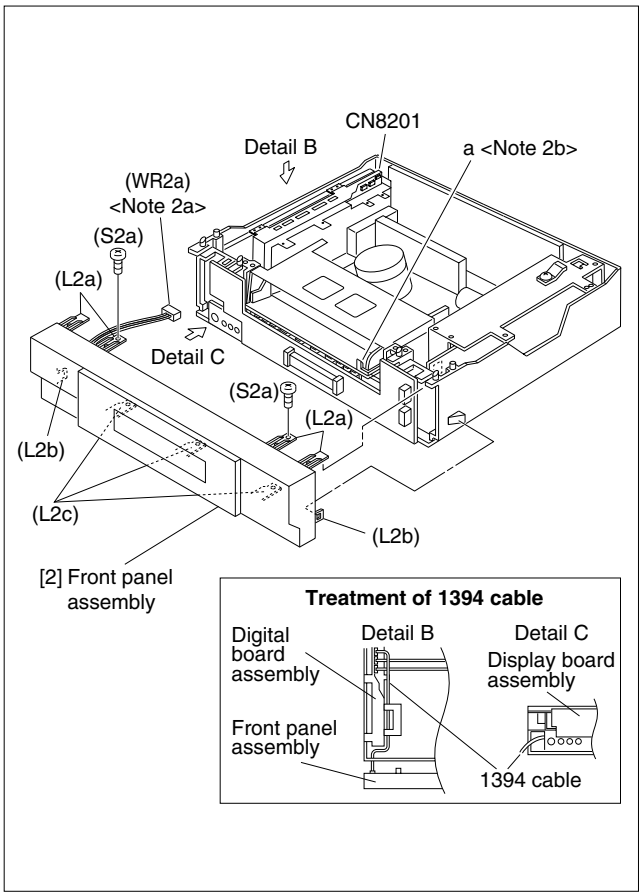


Fig. D2

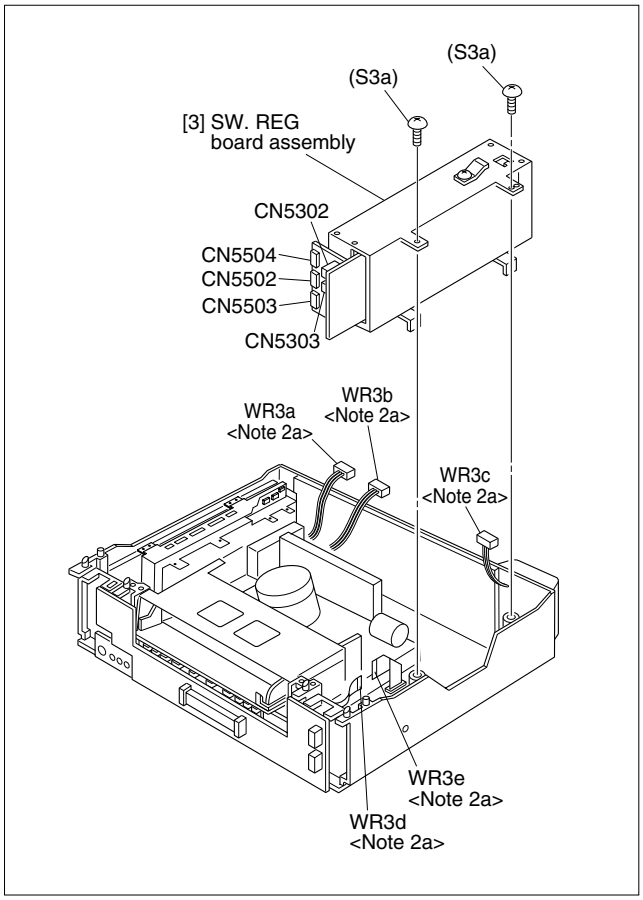


Fig. D3

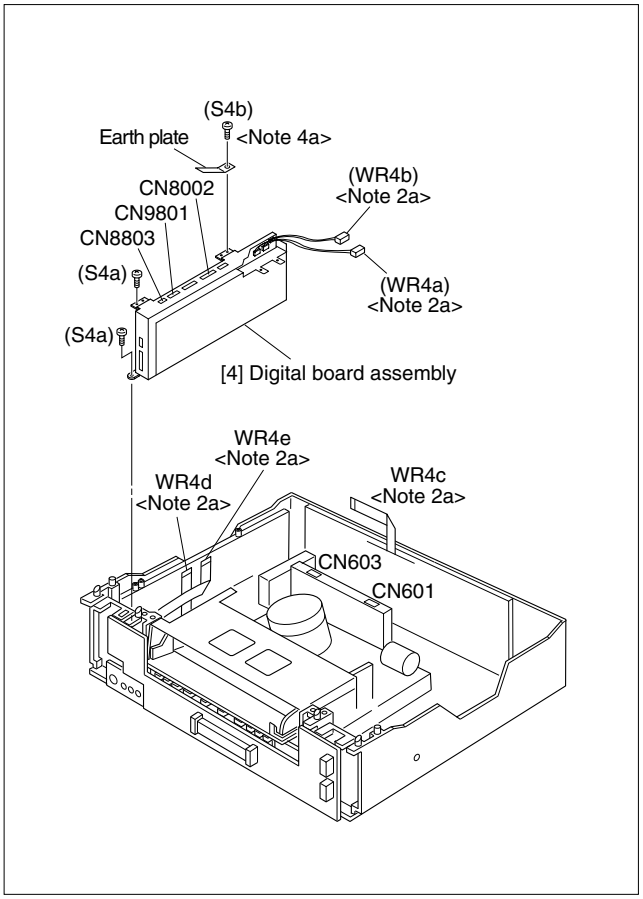


Fig. D4

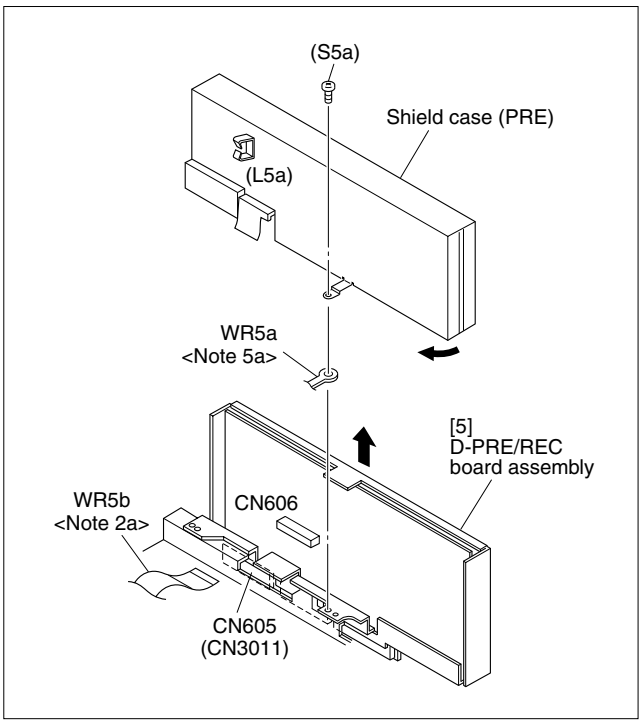


Fig. D5

Note:
When installing the Drum assembly, secure the screws (S6a to S6c) in the order of a, b, c.

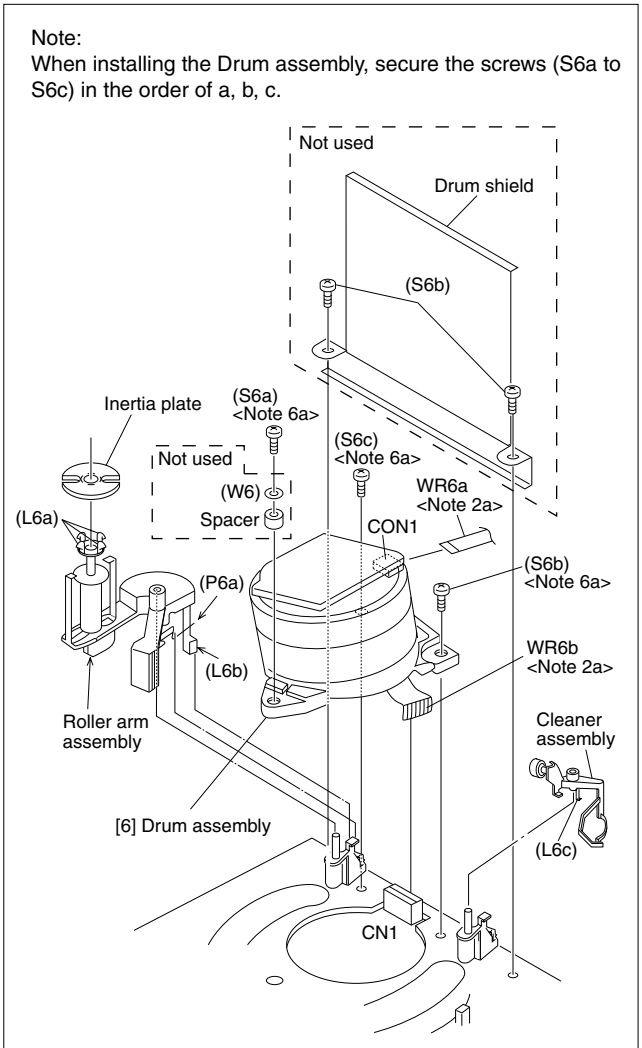


Fig. D6

Note:
When installing the Mechanism assembly, secure the screws (S7a to S7b) in the order of a, b.

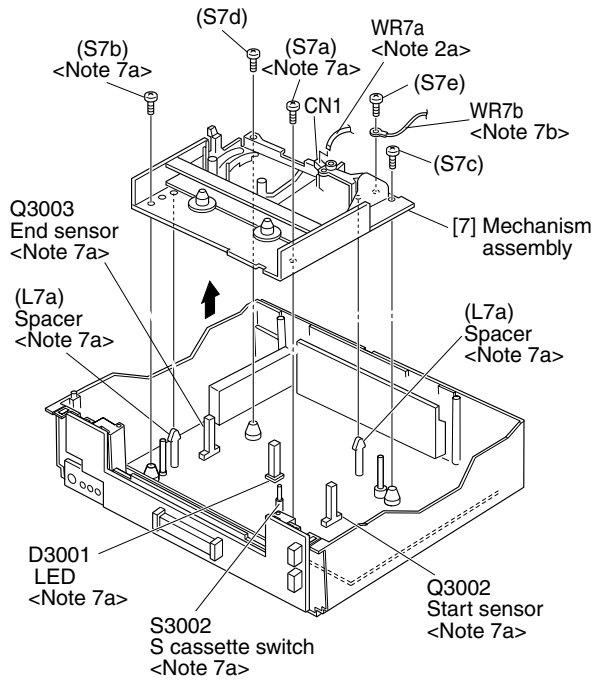


Fig. D7

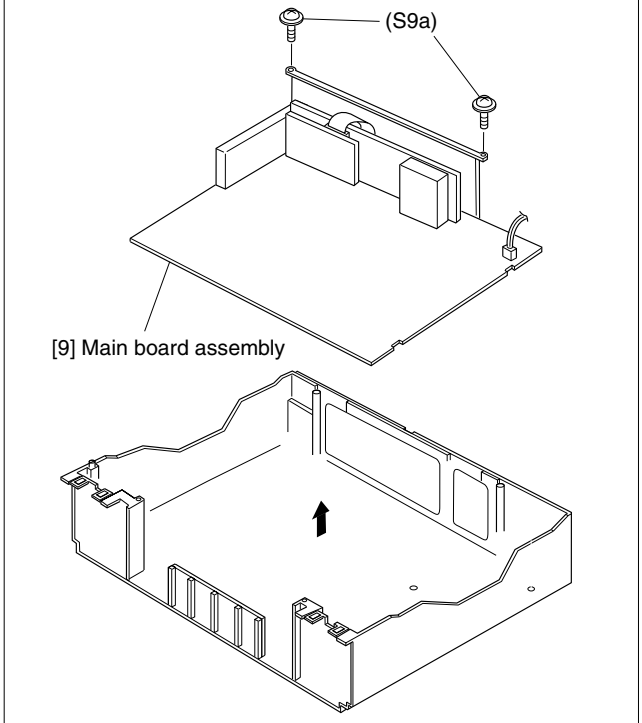


Fig. D9

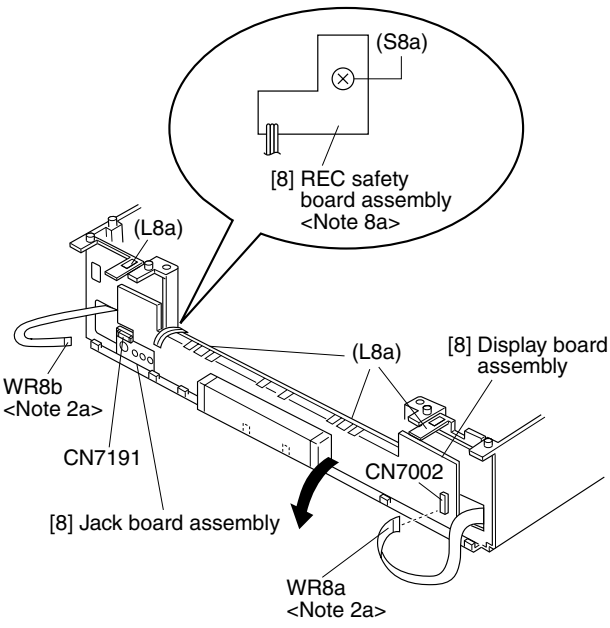


Fig. D8

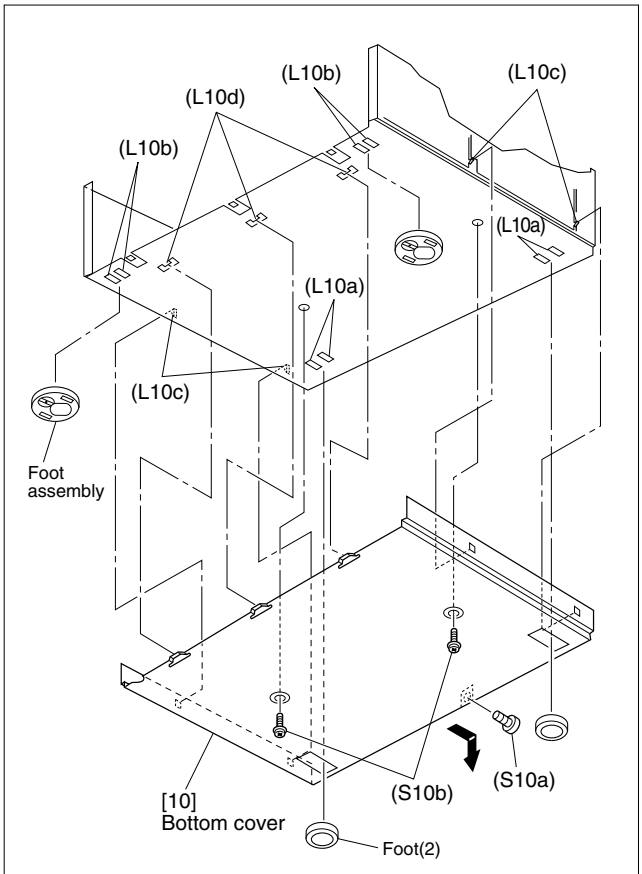


Fig. D10

1.4 Service position

This unit has been designed so that the Mechanism and Main board assemblies can be removed together from the chassis assembly. Before diagnosing or servicing the circuit boards, take out the major parts from the chassis assembly.

1.4.1 How to set the "Service position"

(1) Refer to the disassembly procedure and perform the disassembly of the major parts before removing the D-PRE/REC board assembly.
(2) Remove the screws attaching the mechanism assembly with the chassis assembly. Remove the screws attaching the board assembly, if necessary.
(3) Remove the combined Mechanism and Main board assemblies.
(4) Connect the wires and connectors of the major parts that have been removed in step (1). (Refer to Fig.1-4-1a.)
(5) Place the combined Mechanism and Main board assemblies upside down.
(6) Insert the power cord plug into the power outlet and then proceed with the diagnostics and servicing of the board assembly.

Notes:

- ***Before inserting the power cord plug into the power outlet, make sure that none of the electrical parts are able to short-circuit between the workbench and the board assembly.***
- ***For the disassembly procedure of the major parts and details of the precautions to be taken, see "1.3 Disassembly/assembly method".***
- ***If there are wire connections from the Main board and Mechanism assemblies to the other major parts, be sure to remove them (including wires connected to the major parts) first before performing step (2).***
- ***When carrying out diagnosis and repair of the Main board assembly in the "Service position", be sure to ground both the Main board and Mechanism assemblies. If they are improperly grounded, there may be noise on the playback picture or FDP counter display may move even when the mechanism is kept in an inoperative status.***
- ***In order to diagnose the playback or recording of the cassette tape, set the Mechanism assembly to the required mode before placing it upside down. If the mechanism mode is changed (including ejection) while it is in an upside down position the tape inside may be damaged.***

1.4.2 Precautions for cassette loading in the "Service position"

The REC safety board assembly detects cassette loading as well as cassette tabs. Therefore, after the assembly has been removed in the "Service position", it is required to set the switch manually on the REC safety board assembly when a cassette is loaded.

1.4.3 Cassette loading and ejection methods in the "Service position"

(1) Insert a cassette halfway in the Cassette holder assembly.
(2) Set the switch on the REC safety board assembly to on (by pressing the switch).
(3) As soon as the cassette starts to be loaded, set the switch on the REC safety board assembly to off (by releasing the switch).
(4) Now the desired operation (recording, playback, fast forward, rewind, etc.) is possible in this status.
(5) The switch on the REC safety board assembly does not have to be operated when ejecting a tape. But be sure to turn the set to the normal position before ejecting the tape.

Note:

- *In the "Service position", the cassette tabs cannot be detected and recording becomes possible even with a cassette with broken tabs such as the alignment tape. Be very careful not to erase important tapes.*

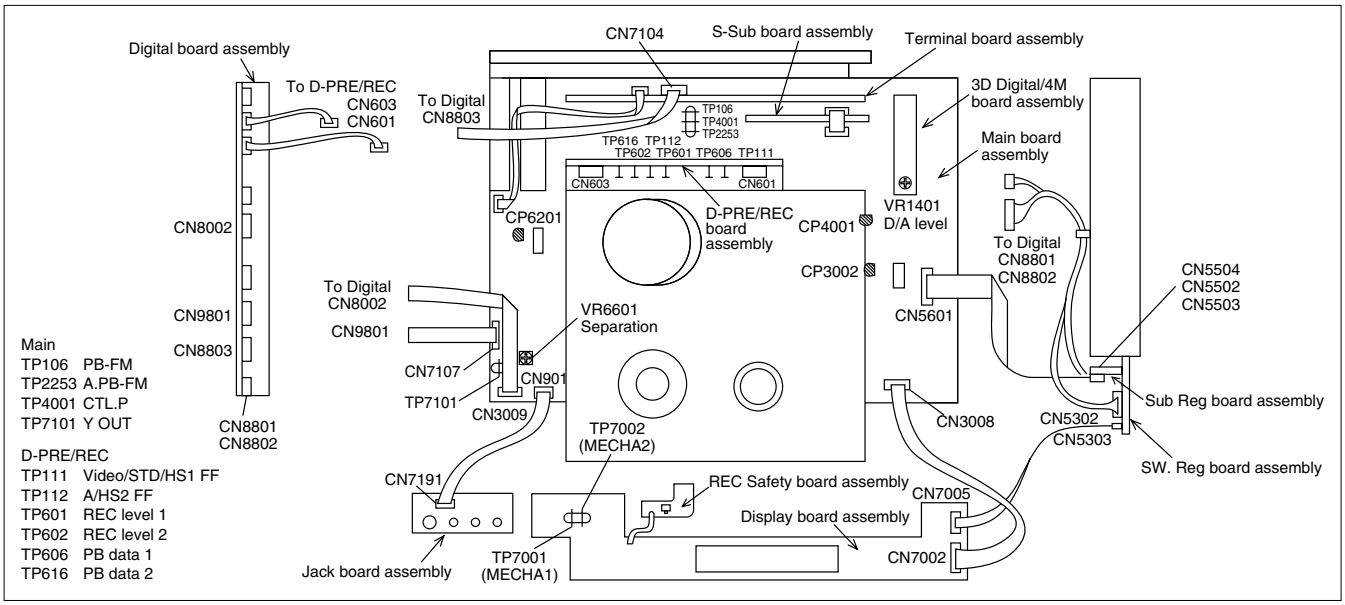


Fig. 1-4-1a

1.5 Mechanism service mode

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the “Mechanism service mode”.

1.5.1 How to set the “Mechanism service mode”

(1) Unplug the power cord plug from the power outlet.
(2) Remove the front panel assembly.
(3) Connect TP7001(MECHA 1) and TP7002(MECHA 2) on the Display board assembly with a jump wire.
(4) Insert the power cord plug into the power outlet.
(5) With lock levers (A) (B) on the left and right of the Cassette holder assembly pulled toward the front, slide the holder in the same direction as the cassette insertion direction. (For the positions of lock levers (A) (B), refer to the “Procedures for lowering the Cassette holder assembly” of 1.3 Disassembly/assembly method.)
(6) The cassette holder lowers and, when the loading has completed, the mechanism enters the desired mode.

1.6 Jig RCU mode

This unit uses the following two modes for receiving remote control codes.

1) User RCU mode : Ordinary mode for use by the user.
2) Jig RCU mode : Mode for use in production and servicing.

When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). As both of the above two modes are stored in the EEPROM, it is required to set the VCR back to the User RCU mode each time that an adjustment is made or to check that the necessary operations have been completed. These modes can be set by the operations described below.

1.6.1 Setting the Jig RCU mode

(1) Unplug the power cord plug from the power outlet.
(2) Press and hold the “REC” and “PAUSE” buttons on the VCR simultaneously, while plugging the power cord plug into the power outlet.
When the VCR is set to the Jig RCU mode, the symbols (“ : ”) in the time display of the FDP are turned off.

1.6.2 Setting the User RCU mode

(1) Turn off the power.
(2) Press the “REC” and “PAUSE” buttons of the VCR simultaneously. Alternatively, transmit the code “80” from the Jig RCU.

1.7 Opening on the chassis

The chassis of this VCR has openings for diagnosis of some parts on the board assembly.

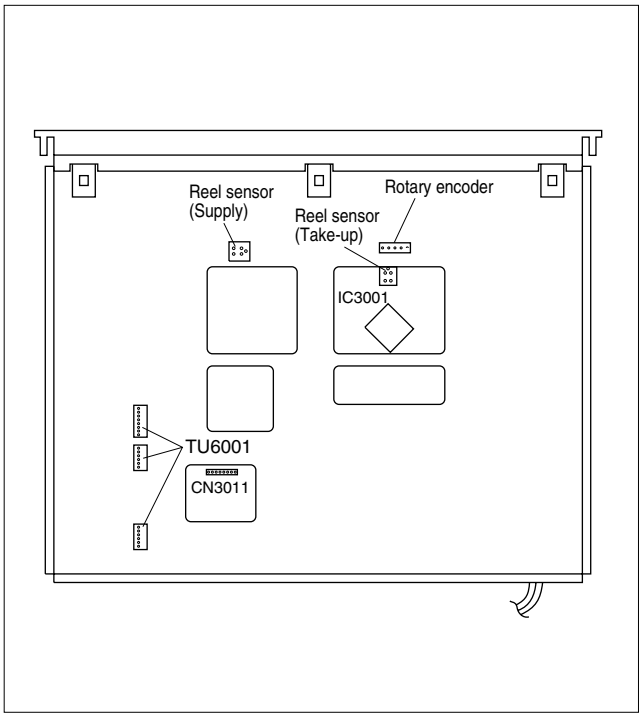
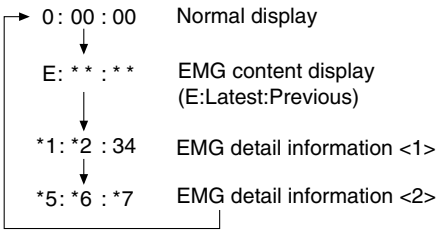


Fig. 1-7-1a

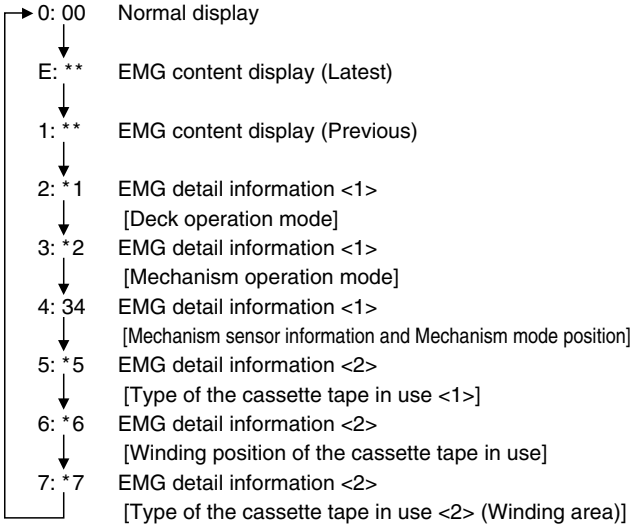
1.8 Emergency display function

This unit has a function for storing the history of the past two emergencies (EMG) and displaying them on each FDP (or OSD). With the status of the VCR and mechanism at the moment an emergency occurred can also be confirmed.

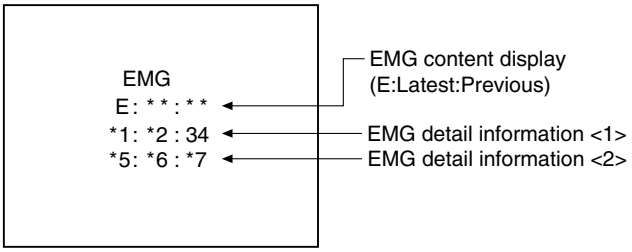
FDP display model
[FDP display]



FDP (7segment LED) display model
[FDP display]



OSD display model
[OSD display]



Notes:

- ***The EMG detail information <1><2> show the information on the latest EMG.***
  It becomes " – – : – – : – –" when there is no latest EMG record.
- ***When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received).***

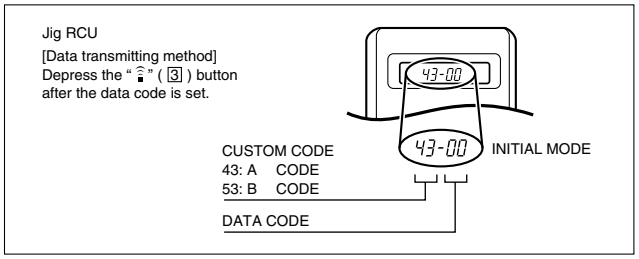


Fig. 1-8a Jig RCU [PTU94023B]

1.8.1 Displaying the EMG information

(1) Transmit the code "59" from the Jig RCU.
The FDP shows the EMG content in the form of "E: * * : * * ".

<Example 1> E : 01 : 03
Previous EMG
Latest EMG

<Example 2> E : – – : – – ← No EMG record

(2) Transmit the code "59" from the Jig RCU again.
The FDP shows the EMG detail information <1> in the form of " *1 : *2 : 34 ".

- *1 : Deck operation mode at the moment of EMG
- *2 : Mechanism operation mode at the moment of EMG
- 3– : Mechanism sensor information at the moment of EMG
- –4 : Mechanism mode position at the moment of EMG

(3) Transmit the code "59" from the Jig RCU once again.
The FDP shows the EMG detail information <2> in the form of " *5 : *6 : *7 ".

- *5 : Type of the cassette tape in use <1> .
- *6 : Winding position of the cassette tape in use
- *7 : Type of the cassette tape in use <2> (Winding area)

(4) Transmit the code "59" from the Jig RCU once again to reset the display.

Notes:

- ***For the OSD display model, all EMG information are showed by transmitting first code from the Jig RCU.***
- ***For the EMG content, see "1.8.3 EMG content description".***
- ***For the EMG detail information <1> , see "1.8.4 EMG detail information <1> ".***
- ***For the EMG detail information <2> , see "1.8.5 EMG detail information <2>".***

1.8.2 Clearing the EMG history

(1) Display the EMG history.
(2) Transmit the code "36" from the Jig RCU.
(3) Reset the EMG display.

(EMG-02e)

1.8.3 EMG content description

Note: ***EMG contents "E08/E09" are for the model with Dynamic Drum (DD).***

FDP	CONTENT	CAUSE
E01: Loading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the loading direction, [E:01] is identified and the power is turned off.	1. The mechanism is locked in the middle of mode transition. 2. The mechanism is locked at the loading end due to the encoder position reading error during mode transition. 3. Power is not supplied to the loading MDA.
E02: Unloading EMG	When the mechanism mode cannot be changed to another mode even when the loading motor has rotated for more than 4 seconds in the unloading direction, [E:02] is identified and the power is turned off.	1. The mechanism is locked in the middle of mode transition. 2. The mechanism is locked at the unloading end due to the encoder position reading error during mode transition. 3. Power is not supplied to the loading MDA.
E03: Take Up Reel Pulse EMG	When the take-up reel pulse has not been generated for more than 4 seconds in the capstan rotating mode, [E:03] is identified, the pinch rollers are turned off and stopped, and the power is turned off. However, the reel EMG is not detected in STILL/SLOW modes.	1. The take-up reel pulse is not generated in the FWD transport modes (PLAY/FWD SEARCH/FF, etc.) because; 1) The idler gear is not meshed with the take-up reel gear; 2) The idler gear is meshed with the take-up reel gear, but incapable of winding due to too large mechanical load (abnormal tension); 3) The take-up reel sensor does not output the FG pulse. 2. The supply reel pulse is not generated in the REV transport modes (REV SEARCH/REW, etc.) because; 1) The idler gear is not meshed with the supply reel gear. 2) The idler gear is meshed with the supply reel gear, but incapable of winding due to too large a mechanical load (abnormal tension); 3) The supply reel sensor does not output the FG pulse. 3. Power is not supplied to the reel sensors.
E04: Drum FG EMG	When the drum FG pulse has not been input for more than 3 seconds in the drum rotating mode, [E:04] is identified, the pinch rollers are turned off and stopped, and the power is turned off.	1. The drum could not start or the drum rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high; 2) The tape is damaged or a foreign object (grease, etc.) adheres to the tape. 2. The drum FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (hall device) of the drum is faulty. 3. The drum control voltage (DRUM CTL V) is not supplied to the MDA. 4. Power is not supplied to the drum MDA.
E05: Cassette Eject EMG	When the eject operation does not complete in 3 seconds after the start, [E:05] is identified, the pinch rollers are turned off and stopped, and the power is turned off. When the cassette insertion operation does not complete in 3 seconds after the start, the cassette is ejected. In addition, when the operation does not complete within 3 seconds after the start, [E:05] is also identified and the power is turned off immediately.	1. The cassette cannot be ejected due to a failure in the drive mechanism of the housing. 2. When the housing load increases during ejection, the loading motor is stopped because of lack of headroom in its drive torque. Housing load increasing factors: Temperature environment (low temperature, etc.), mechanism wear or failure. 3. The sensor/switch for detecting the end of ejection are not functioning normally. 4. The loading motor drive voltage is lower than specified or power is not supplied to the motor (MDA). 5. When the user attempted to eject a cassette, a foreign object (or perhaps the user's hand) was caught in the opening of the housing.
E06: Capstan FG EMG	When the capstan FG pulse has not been generated for more than 1 second in the capstan rotating mode, [E:06] is identified, the pinch rollers are turned off and stopped, and the power is turned off.However, the capstan EMG is not detected in STILL/SLOW/FF/REW modes.	1. The capstan could not start or the capstan rotation has stopped due to too large a load on the tape, because; 1) The tape tension is abnormally high (mechanical lock); 2) The tape is damaged or a foreign object (grease, etc.) is adhered to the tape (occurrence of tape entangling, etc.). 2. The capstan FG pulse did not reach the System controller CPU because; 1) The signal circuit is disconnected in the middle; 2) The FG pulse generator (MR device) of the capstans is faulty. 3. The capstan control voltage (CAPSTAN CTL V) is not supplied to the MDA. 4. Power is not supplied to the capstan MDA.
E07: SW Power Short-Circuit EMG	When short-circuiting of the SW power supply with GND has lasted for 0.5 second or more, [E:07] is identified, all the motors are stopped and the power is turned off.	1. The SW 5 V power supply circuit is shorted with GND. 2. The SW 12 V power supply circuit is shorted with GND.
E08: DD Initialized (Absolute Position Sensor) EMG	When DD tilting does not complete in 4 seconds, [E:08] is identified, the tilt motor is stopped and the power is turned off.	1. The absolute value sensor is defective. (The soldered parts have separated.) 2. The pull-up resistor at the absolute sensor output is defective. (The soldered parts have separated.) 3. Contact failure or soldering failure of the pins of the connector (board-to-board) to the absolute value sensor. 4. The absolute value sensor data is not sent to the System Controller CPU.
E09: DD FG EMG	When the DD FG pulse is not generated within 2.5 seconds, [E:09] is identified, the tilt motor is stopped and the power is turned off.	1. The FG sensor is defective. (The soldered parts have separated.) 2. The pull-up resistor at the FG sensor output is defective. (The soldered parts have separated.) 3. Contact failure or soldering failure of the pins of the connector (board-to-board) to the FG sensor. 4. The power to the sensor is not supplied. (Connection failure/soldering failure) 5. The FG pulse is not sent to the System Controller CPU. 6. The tilt motor is defective. (The soldered parts have separated.) 7. The drive power to the tilt motor is not supplied. (Connection failure/soldering failure) 8. The tilt motor drive MDA - IC is defective. 9. Auto-recovery of the DD tilting cannot take place due to overrun.
E0A: Supply Reel Pulse EMG	When the supply reel pulse has not been generated for more than 10 seconds in the capstan rotating mode, [E:0A] is identified and the cassette is ejected (but the power is not turned off). However, note that the reel EMG is not detected in the SLOW/STILL mode.	1. The supply reel pulse is not generated in the FWD transport mode (PLAY/FWD SEARCH/FF, etc.) because; 1) PLAY/FWD or SEARCH/FF is started while the tape in the inserted cassette is cut in the middle; 2) A mechanical factor caused tape slack inside and outside the supply reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the FWD transport, so the pulse is not generated until then; 3) The FG pulse output from the supply reel sensor is absent. 2. The take-up reel pulse is not generated in the REV transport mode (REV SEARCH/REW, etc.). 1) REV SEARCH/REW is started when the tape in the inserted cassette has been cut in the middle; 2) A mechanical factor caused tape slack inside and outside the take-up reel side of the cassette shell. In this case, the supply reel will not rotate until the tape slack is removed by the REV transport, so the pulse will not be generated until that time; 3) The FG pulse output from the take-up reel sensor is absent. 3. The power to a reel sensor is not supplied.
EC1 or EU1: Head clog warning	Presupposing the presence of the control pulse output in the PLAY mode, when the value obtained by mixing the two V.FM output channels (without regard to the A.FM output) has remained below a certain threshold level for more than 10 seconds, [E:C1] or [E:U1] is identified and recorded in the emergency history. During the period in which a head clog is detected, the FDP and OSD repeat the "3-second warning display" and "7-second noise picture display" alternately. EMG code : "E:C1" or "E:U1" / FDP : "U:01" / OSD : "Try cleaning tape." or "Use cleaning cassette." The head clog warning is reset when the above-mentioned threshold has been exceeded for more than 2 seconds or the mode is changed to another mode than PLAY.	

Table 1-8-3a

1.8.4 EMG detail information <1>

The status (electrical operation mode) of the VCR and the status (mechanism operation mode/sensor information) of the mechanism in the latest EMG can be confirmed based on the figure in EMG detail information <1> .

[FDP/OSD display]

*1 : *2 : 34

*1 : Deck operation mode at the moment of EMG
*2 : Mechanism operation mode at the moment of EMG
3– : Mechanism sensor information at the moment of EMG
–4 : Mechanism mode position at the moment of EMG

Note:

- ***For EMG detailed information <1>, the content of the code that is shown on the FDP (or OSD) differs depending on the parts number of the system control microprocessor (IC3001) of the VCR. The system control microprocessor parts number starts with two letters, refer these to the corresponding table.***

***1 : Deck operation mode**
[Common table of MN*, HD* and M3*]

Display		Deck operation mode
MN*/M3*	HD*	
00	-	Mechanism being initialized
01	00	STOP with pinch roller pressure off (or tape present with P.OFF)
02	01	STOP with pinch roller pressure on
03	-	POWER OFF as a result of EMG
04	04	PLAY
0C	0E	REC
10	11	Cassette ejected
20	22	FF
21	-	Tape fully loaded, START sensor ON, short FF
22	-	Cassette identification FWD SEARCH before transition to FF (SP x7-speed)
24	26	FWD SEARCH (variable speed) including x2-speed
2C	2E	INSERT REC
40	43	REW
42	-	Cassette identification REV SEARCH before transition to REW (SP x7-speed)
44	47	REV SEARCH (variable speed)
4C	4C	AUDIO DUB
6C	6E	INSERT REC (VIDEO + AUDIO)
84	84	FWD STILL / SLOW
85	85	REV STILL / SLOW
8C	8F	REC PAUSE
8D	-	Back spacing
8E	-	Forward spacing (FWD transport mode with BEST function)
AC	AF	INSERT REC PAUSE
AD	-	INSERT REC back spacing
CC	CD	AUDIO DUB PAUSE
CD	-	AUDIO DUB back spacing
EC	EF	INSERT REC (VIDEO + AUDIO) PAUSE
ED	-	INSERT REC (VIDEO + AUDIO) back spacing

***2 : Mechanism operation mode**
[Common table of MN* and M3*]

Display		Mechanism operation mode
MN*	M3*	
00	00	Command standby (Status without executing command)
02	02	POWER OFF by EMG occurrence
04	04	Moving to the adjacent position in the LOAD direction
06	06	Moving to the adjacent position in the UNLOAD direction
08	08	Cassette ejection being executed / Cassette housing ejection being executed
-	0A	Mode transition to STOP with cassette ejection end
0A	0C	Cassette insertion being executed
0C	0E	Tape being loaded
0E	10	Tape being unloaded
10	12	Mode transition to STOP with pinch roller compression ON
12	14	Mode transition to STOP with pinch roller compression OFF
14	16	Mode transition to STOP with pinch roller compression OFF as a result of POWER OFF
16	18	Mode transition to STOP with pinch roller compression ON as a result of POWER ON
18	1A	Mode transition to PLAY
1A	1C	Mode transition to FWD SEARCH
1C	1E	Mode transition to REC
1E	20	Mode transition to FWD STILL / SLOW
20	22	Mode transition to REV STILL / SLOW
22	24	Mode transition to REV SEARCH
24	26	Mode transition from FF / REW to STOP
26	28	Mode transition to FF
28	2A	Mode transition to REW
2A	2C	4 sec. of REV as a result of END sensor going ON during loading
2C	2E	Short FF / REV as a result of END sensor going ON during unloading
2E	30	Mechanism position being corrected due to overrun
80	80	Mechanism in initial position (Dummy command)

[Table of HD*]

Display	Mechanism operation mode
00	STOP with pinch roller pressure off
01	STOP with pinch roller pressure on
02	U/L STOP (or tape being loaded)
04	PLAY
05	PLAY (x1-speed playback using JOG)
0E	REC
11	Cassette ejected
22	FF
26	FWD SEARCH (variable speed) including x2-speed
2E	INSERT REC
43	REW
47	REV SEARCH
4C	AUDIO DUB
6E	INSERT REC (VIDEO + AUDIO)
84	FWD STILL/SLOW
85	REV STILL/SLOW
8F	REC PAUSE
AF	INSERT REC PAUSE
C7	REV SEARCH (x1-speed reverse playback using JOG)
CD	AUDIO DUB PAUSE
EF	INSERT REC (VIDEO + AUDIO) PAUSE
F0	Mechanism being initialized
F1	POWER OFF as a result of EMG
F2	Cassette being inserted
F3	Cassette being ejected
F4	Transition from STOP with pinch roller pressure on to STOP with pinch roller pressure off
F5	Transition from STOP with pinch roller pressure on to PLAY
F6	Transition from STOP with pinch roller pressure on to REC
F7	Cassette type detection SEARCH before FF/REW is being executed
F8	Tape being unloaded
F9	Transition from STOP with pinch roller pressure off to STOP with pinch roller pressure on
FA	Transition from STOP with pinch roller pressure off to FF/REW
FB	Transition from STOP with pinch roller pressure off to REC.P (T.REC,etc.)
FC	Transition from STOP with pinch roller pressure off to cassette type detection SEARCH
FD	Short REV being executed after END sensor on during unloading
FE	Tension loosening being executed after tape loading (STOP with pinch roller pressure on)

3– : Mechanism sensor information
[Common table of MN*, HD* and M3*]

Display	Mechanism sensor information				
	MN* / HD* S-VHS SW	M3* CASS SW	REC safety SW	Start sensor	End sensor
0-	VHS	Cassette insertion	Tab broken	ON	ON
1-	VHS	Cassette insertion	Tab broken	ON	OFF
2-	VHS	Cassette insertion	Tab broken	OFF	ON
3-	VHS	Cassette insertion	Tab broken	OFF	OFF
4-	VHS	Cassette insertion	Tab present	ON	ON
5-	VHS	Cassette insertion	Tab present	ON	OFF
6-	VHS	Cassette insertion	Tab present	OFF	ON
7-	VHS	Cassette insertion	Tab present	OFF	OFF
8-	S-VHS	Cassette ejection	Tab broken	ON	ON
9-	S-VHS	Cassette ejection	Tab broken	ON	OFF
A-	S-VHS	Cassette ejection	Tab broken	OFF	ON
B-	S-VHS	Cassette ejection	Tab broken	OFF	OFF
C-	S-VHS	Cassette ejection	Tab present	ON	ON
D-	S-VHS	Cassette ejection	Tab present	ON	OFF
E-	S-VHS	Cassette ejection	Tab present	OFF	ON
F-	S-VHS	Cassette ejection	Tab present	OFF	OFF

–4 : Mechanism mode position
[Common table of MN*, HD* and M3*]

Display			Mechanism mode position
MN*	HD*	M3*	
-0	-7	-	Initial value
-1	-0	-	EJECT position
-	-	-0	EJECT position (Cassette housing drive mode)
-2	-7	-	Housing operating
-	-	-1	Between EJECT and U / L STOP
-3	-1	-2	U / L STOP position
-	-	-3	Guide arm drive position
-4	-7	-4	Tape being loaded / unloaded (When the pole base is located on the front side of the position just beside the drum)
-5	-2	-5	Tape being loaded / unloaded (When the pole base is located on the rear side of the position just beside the drum)
-6	-7	-6	Pole base compressed position
-7	-3	-F	FF / REW position
-8	-7	-F	Between FF / REW and STOP with pinch roller compression ON
-9	-4	-F	STOP with pinch roller compression OFF
-A	-7	-E	Between STOP with pinch roller compression OFF and REV
-B	-5	-	REV (REV STILL / SLOW) position
-	-	-D	REV position
-	-	-C	Between REV and REV STILL / SLOW
-	-	-B	REV STILL / SLOW position
-C	-7	-	Between REV and FWD
-	-	-A	Between REV STILL / SLOW and FWD STILL / SLOW
-D	-6	-	FWD (FWD STILL / SLOW) position
-	-	-9	FWD STILL / SLOW position
-E	-7	-	Between FWD and PLAY
-	-	-8	Between FWD STILL / SLOW and PLAY
-F	-6	-7	PLAY position

Note:
- ***In the case of the "HD*" microprocessor, as the display is always "-7" at any intermediate position between modes, the position of transitory EMG may sometimes not be located.***

1.8.5 EMG detail information <2>

The type of the cassette tape and the cassette tape winding position can be confirmed based on the figure in EMG detail information <2> .

[FDP/OSD display]

*5 : *6 : *7

*5 : Type of the cassette tape in use <1>
*6 : Winding position of the cassette tape in use
*7 : Type of the cassette tape in use <2> (Winding area)

Note:
- ***EMG detail information <2> is the reference information stored using the remaining tape detection function of the cassette tape. As a result, it may not identify cassette correctly when a special cassette tape is used or when the tape has variable thickness.***

***5 : Cassette tape type <1>**

Display	Cassette tape type <1>
00	Cassette type not identified
16	Large reel/small reel (T-0 to T-15/T-130 to T-210) not classified
82	Small reel, thick tape (T-120) identified/thin tape (T-140) identified
84	Large reel (T-0 to T-60) identified
92	Small reel, thick tape (T-130) identified/thin tape (T-160 to T-210) identified
93	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) not classified
C3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
D3	Small reel, thick tape/C cassette (T-0 to T-100/C cassette) being classified
E1	C cassette, thick tape (TC-10 to TC-20) identified
E2	Small reel, thick tape (T-0 to T-100) identified
E9	C cassette, thin tape (TC-30 to TC-40) identified
F1	C cassette, thick tape/thin tape (TC-10 to TC-40) not classified

Notes:
- ***Cassette tape type <1> is identified a few times during mode transition and the identification count is variable depending on the cassette tape type. If an EMG occurs in the middle of identification, the cassette tape type may not be able to be identified.***
- ***If other value than those listed in the above table is displayed, the cassette tape type is not identified.***

***6 : Cassette tape winding position**

The cassette tape winding position at the moment of EMG is displayed by dividing the entire tape (from the beginning to the end) in 22 sections using a hex number from “00” to “15”.

“00” : End of winding
“15” : Beginning of winding
“FF or ––” : Tape position not identified

***7 : Cassette tape type <2> (Winding area)**

Display	Cassette tape type <2>	
00	Cassette type not identified	
07	Small reel, thick tape	T-5
08 - 0E	C cassette, thick tape	TC-10
09 - 15	C cassette, thick tape	TC-20P
0A - 0B	Small reel, thick tape	T-20
0A - 16	C cassette, thin tape	TC-30
0A - 16	C cassette, thin tape	TC-40
0D - 0F	Small reel, thick tape	T-40
11 - 14	Small reel, thick tape	T-60
15 - 18	Small reel, thick tape	T-80 / DF-160
17 - 1A	Small reel, thick tape	T-90 / DF-180
19 - 1D	Small reel, thick tape	T-100
1D - 21	Small reel, thick tape	T-120 / DF-240
1E - 1F	Small reel, thin tape	T-140
1F - 23	Small reel, thick tape	T-130
21 - 23	Small reel, thin tape	T-160
21 - 23	Small reel, thin tape	T-168
22 - 24	Small reel, thick tape	DF-300
22 - 24	Small reel, thin tape	T-180 / DF-360
22 - 24	Small reel, thin tape	T-210 / DF-420
22 - 23	Large reel	T-5
23 - 24	Large reel	T-10
25 - 26	Large reel	T-20
27 - 29	Large reel	T-30
29 - 2B	Large reel	T-40
2D - 2F	Large reel	T-60

Note:
- ***The values of cassette tape type <2> in the above table are typical values with representative cassette tapes.***

SECTION 2
MECHANISM ADJUSTMENT

2.1 Before starting repair and adjustment

2.1.1 Precautions

(1) Unplug the power cord plug of the VCR before using your soldering iron.
(2) Take care not to cause any damage to the conductor wires when plugging and unplugging the connectors.
(3) Do not randomly handle the parts without identifying where the trouble is.
(4) Exercise enough care not to damage the lugs, etc. during the repair work.
(5) When reattaching the front panel assembly, make sure that the door opener of the cassette holder assembly is lowered in position prior to the reinstallation. (See SECTION 1 DISASSEMBLY.)
(6) When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). (See SECTION 1 DISASSEMBLY.)

2.1.2 Checking for proper mechanical operations

Enter the mechanism service mode when you want to operate the mechanism when no cassette is loaded. (See SECTION 1 DISASSEMBLY.)

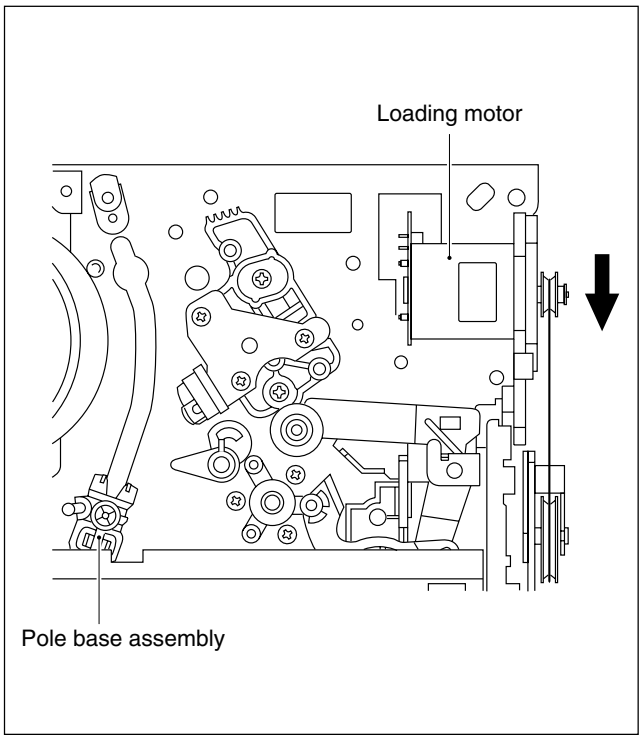


Fig. 2-1-3a

2.1.3 Manually removing the cassette tape

1. In case of electrical failures

If you cannot remove the cassette tape which is loaded because of any electrical failure, manually remove it by taking the following steps.

(1) Unplug the power cord plug from the power outlet.
(2) Refer to the disassembly procedure and perform the disassembly of the major parts before removing the drum assembly.
(3) Unload the pole base assembly by manually turning the loading motor of the mechanism assembly toward the front. In doing so, hold the tape by the hand to keep the slack away from any grease. (See Fig.2-1-3a.)
(4) Bring the pole base assembly to a pause when it reaches the position where it is hidden behind the cassette tape.
(5) Move the top guide toward the drum while holding down the lug (A) of the bracket retaining the top guide. Likewise hold part (B) down and remove the top guide.
Section (C) of the top guide is then brought under the cassette lid. Then remove the top guide by pressing the whole cassette tape down. (See Fig.2-1-3b.)
(6) Remove the cassette tape by holding both the slackened tape and the cassette lid.
(7) Take up the slack of the tape into the cassette. This completes removal of the cassette tape.

Note:

- ***For the disassembly procedure of the major parts and details of the precautions to be taken, see "SECTION 1 DISASSEMBLY".***

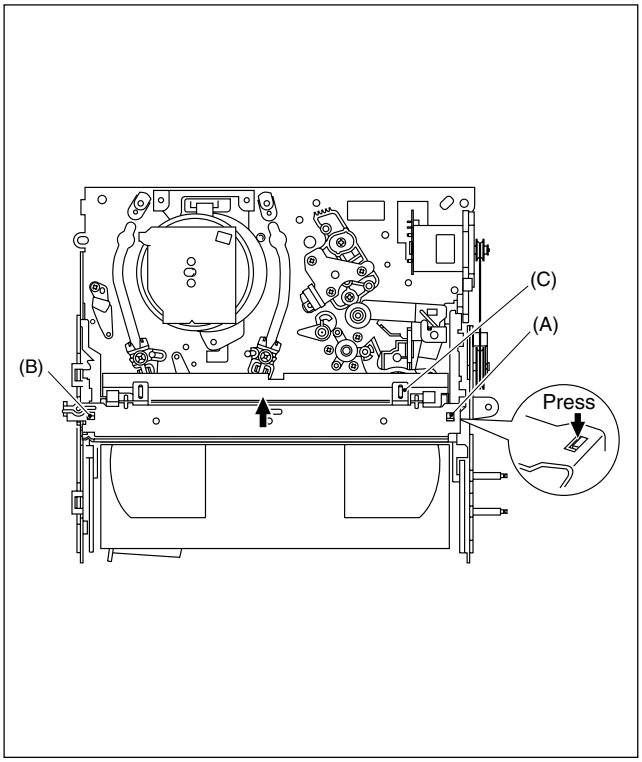


Fig. 2-1-3b

2. In case of mechanical failure

If you cannot remove the cassette tape which is loaded because of any mechanical failure, manually remove it by taking the following steps.

(1) Unplug the power cable and remove the top cover, front panel assembly and others so that the mechanism assembly is visible. (See SECTION 1 DASASSEMBLY.)
(2) While keeping the tension arm assembly of the mechanism assembly free from tension, pull the tape on the pole base assembly (supply or take-up side) out of the guide roller. (See Fig.2-1-3c.)
(3) Take the spring of the pinch roller arm assembly off the hook of the press lever assembly, and detach it from the tape. (See Fig.2-1-3d.)
(4) In the same way as in the electrical failure instructions in 2.1.3-1(5), remove the top guide.
(5) Raise the cassette tape cover. By keeping it in that position, draw out the cassette tape case from the cassette holder and take out the tape.
(6) By hanging the pinch roller arm assembly spring back on the hook, take up the slack of the tape into the cassette.

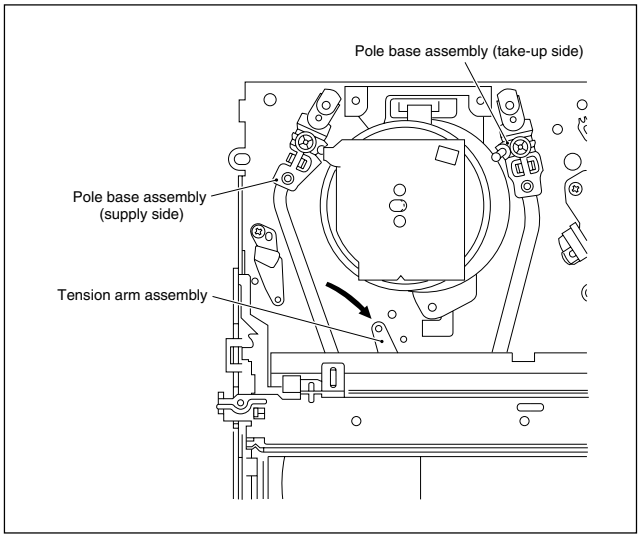


Fig. 2-1-3c

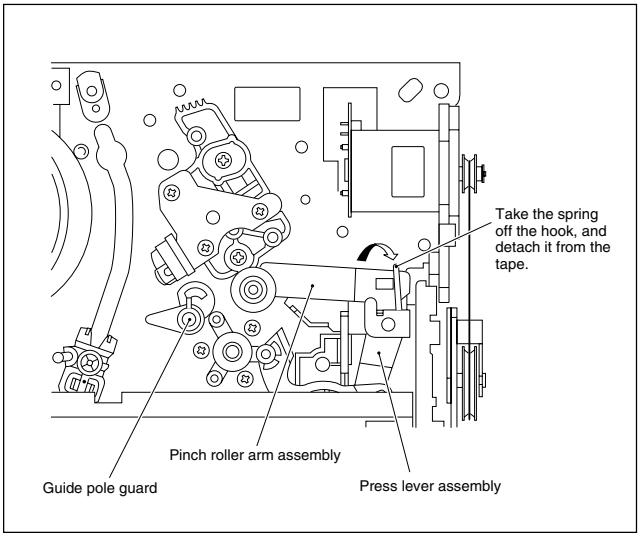
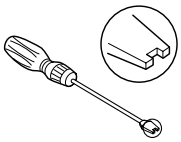
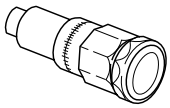
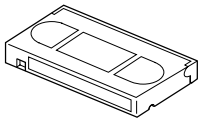
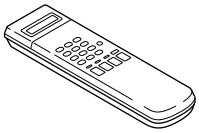
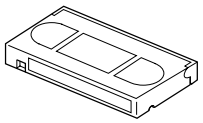
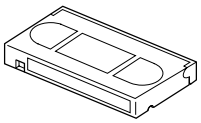


Fig. 2-1-3d

2.1.4 Jigs and tools required for adjustment

Roller driver PTU94002	A/C head positioning tool PTU94010	Torque gauge PUJ48075-2
		
Back tension cassette gauge PUJ48076-2	Jig RCU PTU94023B	
		
Alignment tape (SP, stairstep, NTSC) MHP	Alignment tape (EP, stairstep, NTSC) MHP-L	
		

2.1.5 Maintenance and inspection

1. Location of major mechanical parts

In this chapter, the two mechanism speeds are described by comparing the speeds of the standard type and the high-speed FF/REW type.
It is possible to distinguish between these two types of mechanism by the diameters of their capstan pulleys.
The capstan pulley diameter for the standard type is approx. 32 mm.
The capstan pulley diameter for the high-speed FF/REW type is approx. 43 mm.
For information on the different parts used in the two mechanism types, please refer to the “Replacement of major parts”.

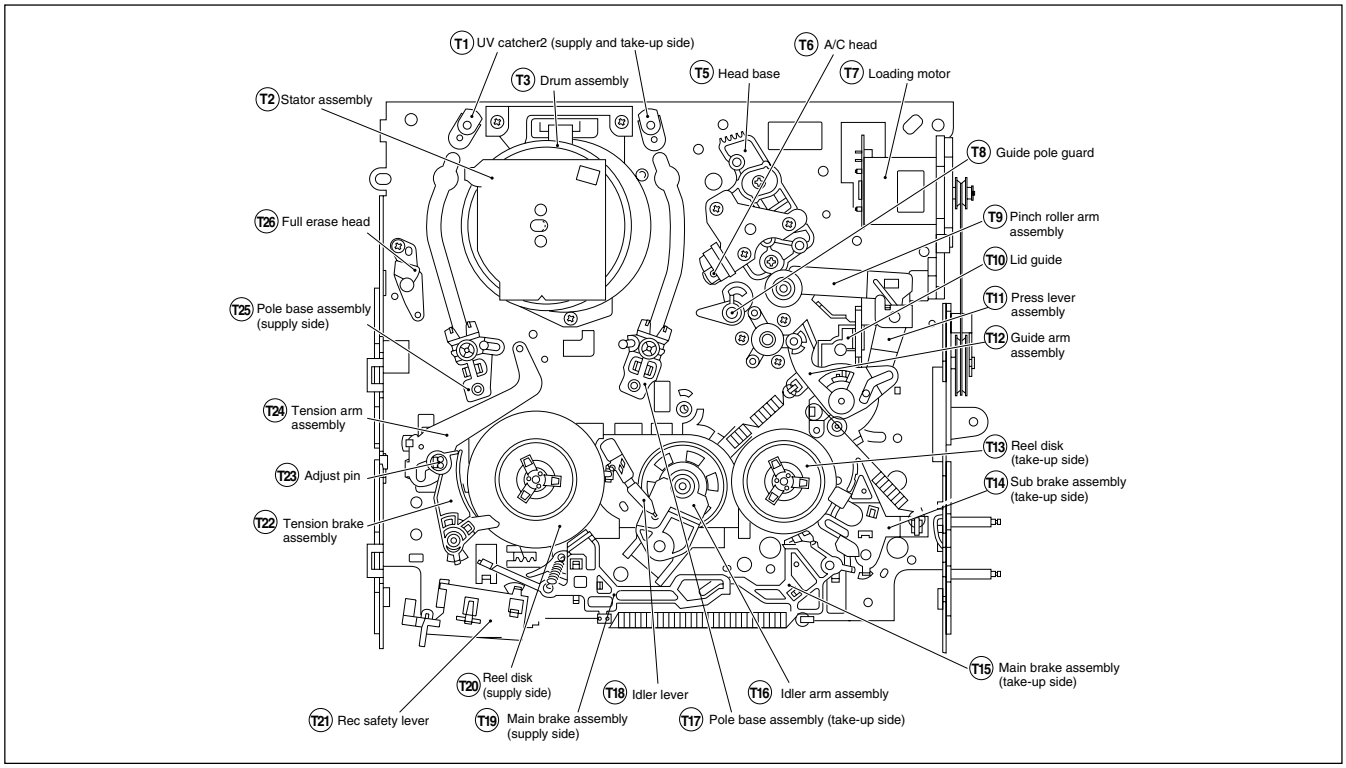

T1 UV catcher2 (supply and take-up side)
T2 Stator assembly
T3 Drum assembly
T5 Head base
T6 A/C head
T7 Loading motor
T8 Guide pole guard
T9 Pinch roller arm assembly
T10 Lid guide
T11 Press lever assembly
T12 Guide arm assembly
T13 Reel disk (take-up side)
T14 Sub brake assembly (take-up side)
T15 Main brake assembly (take-up side)
T16 Idler arm assembly
T17 Pole base assembly (take-up side)
T18 Idler lever
T19 Main brake assembly (supply side)
T20 Reel disk (supply side)
T21 Rec safety lever
T22 Tension brake assembly
T23 Adjust pin
T24 Tension arm assembly
T25 Pole base assembly (supply side)
T26 Full erase head

Fig. 2-1-5a Mechanism assembly top side

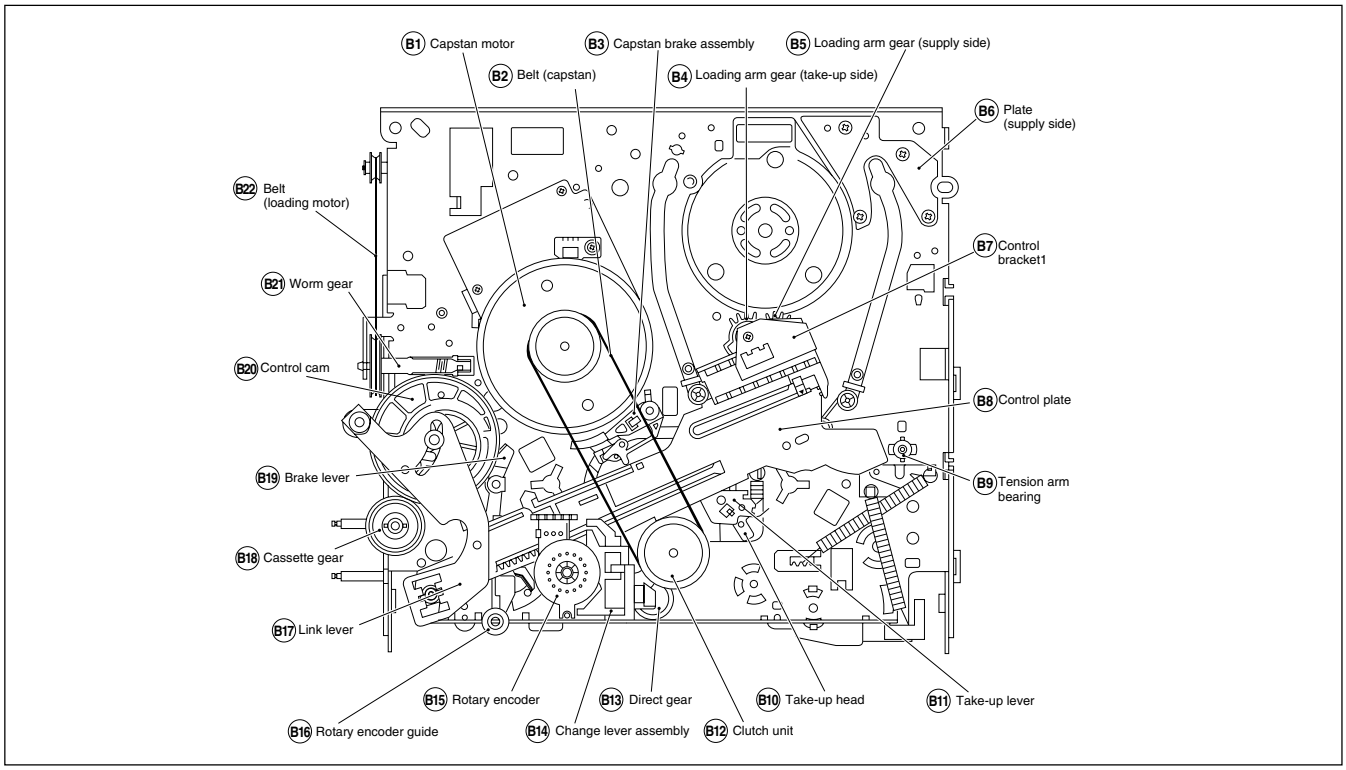


Fig. 2-1-5b Mechanism assembly bottom side

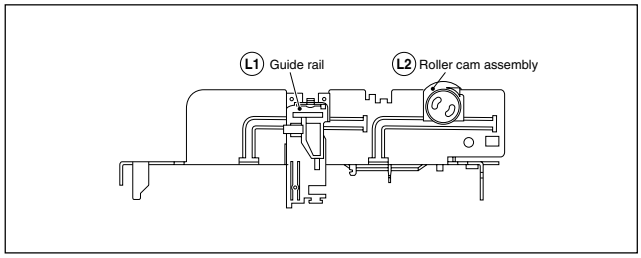


Fig. 2-1-5c Mechanism assembly left side

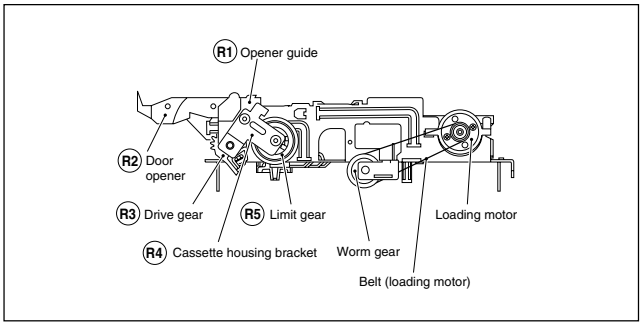


Fig. 2-1-5d Mechanism assembly right side

2. Cleaning

Regular cleaning of the transport system parts is desirable but practically impossible. So make it a rule to carry out cleaning of the tape transport system whenever the machine is serviced.

When the video head, tape guide and/or brush get soiled, the playback picture may appear inferior or at worst disappear, resulting in possible tape damage.

(1) When cleaning the upper drum (especially the video head), soak a piece of closely woven cloth or Kimu-wipe with alcohol and while holding the cloth onto the upper drum by the fingers, turn the upper drum counterclockwise.

Note:

- ***Absolutely avoid sweeping the upper drum vertically as this will cause damage to the video head.***

(2) To clean the parts of the tape transport system other than the upper drum, use a piece of closely woven cloth or a cotton swab soaked with alcohol.

(3) After cleaning, make sure that the cleaned parts are completely dry before using the video tape.

3. Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

Note:

- ***See the "mechanism assembly" diagram of the parts list for the lubricating or greasing spots, and for the types of oil or grease to be used.***

4. Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning,lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions.However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time,even if the set is not used.

System	Parts Name	Operation Hours	
		~1000H	~2000H
Tape transport	Upper drum assembly	★○	○
	A/C head	★○	★○
	Lower drum assembly	★	★○
	Pinch roller arm assembly	★	★
	Full erase head	★	★
	Tension arm assembly	★	★
	Capstan motor (Shaft)	★	★
	Guide arm assembly	★	★
Drive	Capstan motor		○
	Capstan brake assembly		○
	Main brake assembly		○
	Belt (Capstan)	○	○
	Belt (Loading motor)		○
	Loading motor		○
	Clutch unit		○
	Worm gear		○
	Control plate		○
Other	Brush	★○	★○
	Tension brake assembly	○	○
	Rotary encoder		○

★ : Cleaning

○ : Inspection or replacement if necessary

Table 2-1-5a

5. Disassembling procedure table

The following table indicates the order in which parts are removed for replacement. To replace parts, remove them in the order of 1 to 18 as shown in the table. To install them, reverse the removal sequence.

The symbols and numbers preceding the individual part names represent the numbers in the "Location of major mechanical parts" table. Also, the "T", "B", and "T/B" on the right of each part name shows that the particular part is removed from the front, from the back, and from both sides of the mechanism, respectively.

Symbols and numbers	Removal parts / (Reference items) Replacement parts	Front (T)/Back (B) of mechanism	Number of removal steps	L1 Guide rail	L2 Roller cam assembly	R4 Cassette housing bracket	R1 Opener guide	— Relay gear	— Cassette holder assembly	R3 Drive gear	— Drive arm	T9 Pinch roller arm assembly	T12 Guide arm assembly	T11 Press lever assembly	T1 UV catcher2	B15 Rotary encoder	B12 Clutch unit	B14 Change lever assembly	B13 Direct gear	— Coupling gear	B17 Link lever	B21 Worm gear	B7 Control bracket1	B8 Control plate	B5 Loading arm gear (supply side)	B4 Loading arm gear (take-up side)	B11 Take-up lever	T14 Sub brake assembly (take-up side)	T15 Main brake assembly (take-up side)	T13 Reel disk (take-up side)	T22 Tension brake assembly	T24 Tension arm assembly	T18 Idler lever	B19 Brake lever (*1)
L1	2.2.3 Guide rail	T	1																															
L2	2.2.3 Roller cam assembly	T	1																															
R4	2.2.3 Cassette housing bracket	T	1																															
R1	2.2.3 Opener guide	T	2			1																												
R2	2.2.3 Door opener	T	3			1	2																											
—	2.2.3 Relay gear	T	3			1	2																											
R5	2.2.3 Limit gear	T	3			1	2																											
—	2.2.3 Cassette holder assembly	T	6	1	2	3	4	5																										
R3	2.2.3 Drive gear	T	4			1	2	3																										
—	2.2.3 Drive arm	T	8	1	2	3	4	5	6	7																								
T9	2.2.4 Pinch roller arm assembly	T	1																															
T12	2.2.5 Guide arm assembly	T	1																															
T11	2.2.5 Press lever assembly	T	3									1	2																					
T6	2.2.6 A/C head	T	1																															
T7	2.2.7 Loading motor	T	1																															
B1	2.2.8 Capstan motor	T/B	1																															
T1	2.2.9 UV catcher2	T	1																															
T17	2.2.9 Pole base assembly (take-up side)	T/B	2												1																			
T25	2.2.9 Pole base assembly (supply side)	T/B	2												1																			
B15	2.2.10 Rotary encoder	B	1																															
B12	2.2.11 Clutch unit	B	1																															
B14	2.2.12 Change lever assembly	B	3													1	2																	
B13	2.2.12 Direct gear	B	4													1	2	3																
—	2.2.12 Coupling gear	B	5													1	2	3	4															
—	2.2.12 Clutch gear	B	6													1	2	3	4	5														
B17	2.2.13 Link lever	B	1																															
B18	2.2.14 Cassette gear	B	2																		1													
B20	2.2.14 Control cam	B	2																		1													
B21	2.2.14 Worm gear	B	1																															
T10	- Lid guide	T/B	5									1	2	3								4												
B7	2.2.15 Control bracket1	B	1																															
B8	2.2.15 Control plate	B	6													1	2	3			4		5											
B5	2.2.16 Loading arm gear (supply side)	B	7													1	2	3			4		5	6										
B4	2.2.16 Loading arm gear (take-up side)	B	8													1	2	3			4		5	6	7									
—	2.2.16 Loading arm gear shaft	B	9													1	2	3			4		5	6	7	8								
B11	2.2.17 Take-up lever	T/B	7													1	2	3			4		5	6										
B10	2.2.17 Take-up head	T/B	8													1	2	3			4		5	6			7							
—	2.2.17 Control plate guide	T/B	8													1	2	3			4		5	6			7							
B3	2.2.18 Capstan brake assembly	T/B	7													1	2	3			4		5	6										
T14	2.2.19 Sub brake assembly(take-up side)	T/B	15	1	2	3	4	5	6	7	8					9	10	11			12		13	14										
T15	2.2.20 Main brake assembly(take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15						
T19	2.2.20 Main brake assembly(supply side)	T/B	9	1	2	3	4	5	6	7	8																							
T13	2.2.20 Reel disk (take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15						
T22	2.2.21 Tension brake assembly	T/B	9	1	2	3	4	5	6	7	8																							
T20	2.2.21 Reel disk (supply side)	T/B	10	1	2	3	4	5	6	7	8																					9		
T24	2.2.21 Tension arm assembly	T/B	10	1	2	3	4	5	6	7	8																					9		
B9	2.2.21 Tension arm bearing	T/B	10	1	2	3	4	5	6	7	8																					9		
T18	2.2.22 Idler lever	T/B	17	1	2	3	4	5	6	7	8					9	10	11			12		13	14								15	16	
T16	2.2.22 Idler arm assembly	T/B	18	1	2	3	4	5	6	7	8					9	10	11			12		13	14								15	16	17
B19	- Brake lever (*1)	T/B	18	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15	16	17				
B16	- Rotary encoder guide	T/B	19	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15	16	17				18

Table 2-1-5b

Note:

- ***The parts with marked (∗) have different types of mechanisms (standard type or high-speed FF/REW type).***
  - ***∗1 : Uses the standard type mechanism only.***
  - ***∗2 : Uses the high-speed FF/REW type mechanism only.***

2.2 Replacement of major parts

2.2.1 Before starting disassembling (Phase matching between mechanical parts)

The mechanism of this unit is closely linked with the rotary encoder and system controller circuits.
Since the system controller detects the status of mechanical operation in response to phases of the rotary encoder (internal switch positions), the mechanism may not operate properly unless such parts as the rotary encoder, control plate, loading arm gear, control cam, cassette gear, limit gear, relay gear and drive gear are installed in their correct positions.
Especially, this model is not provided with any cassette housing assembly, so that cassette loading and unloading must be accomplished by operation of the cassette holder assembly. The latter is in turn driven by such parts as the drive gear, relay gear and limit gear. Exercise enough care, therefore, to have the phases of all this gear matching one another. (For information on phase matching of the mechanism, see the instructions on how to install individual parts.)
This unit is provided with a mechanism assembly mode. It is therefore necessary to enter this mode for assembling and disassembling procedures.
This mode is usually not in use, manually set it when it is required.

2.2.2 How to set the "Mechanism assembling mode"

Remove the mechanism assembly and place it bottom side up. (See SECTION 1 DISASSEMBLY.) Turn the worm gear toward the front so that the guide hole of the control cam is brought into alignment with the hole at the mechanism assembly chassis. This position renders the mechanism assembling mode operational. Make sure that the control plate is located in alignment with the mark E. (See Fig.2-2-2a.)

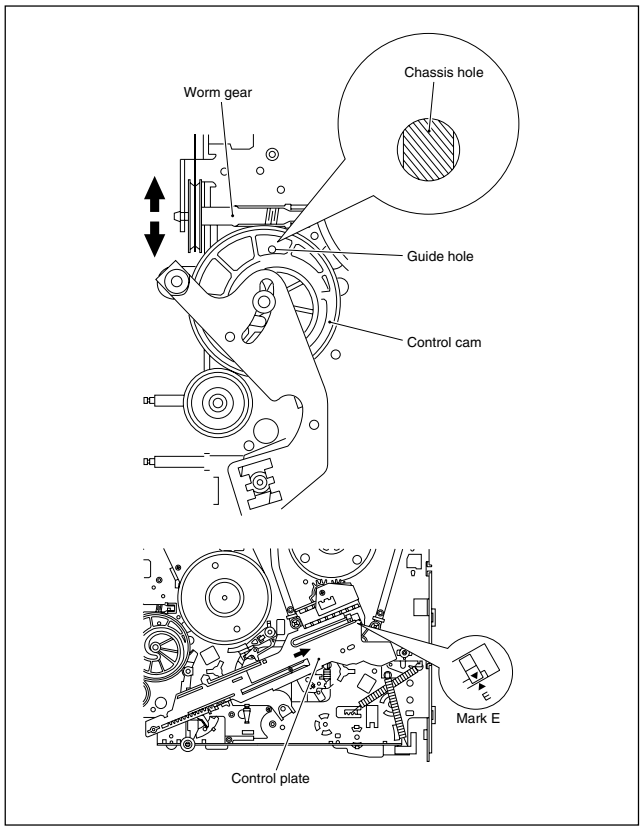


Fig. 2-2-2a

2.2.3 Cassette holder assembly

1. How to remove

(1) Remove the guide rail and roller cam assembly. (See Fig.2-2-3a.)
(3 lugs on the guide rail and one lug on the roller cam assembly)

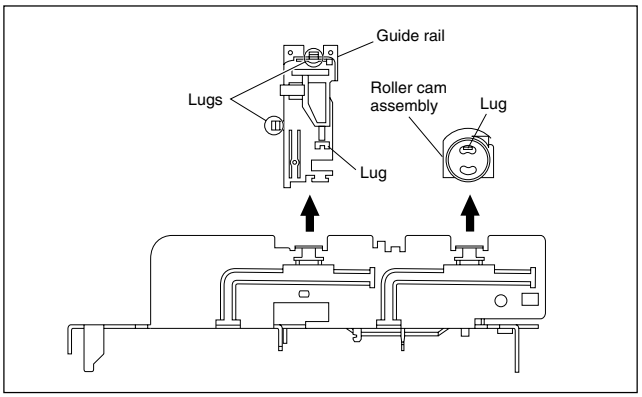


Fig. 2-2-3a

(2) Remove the two slit washers and remove the cassette housing bracket. (See Fig.2-2-3b.)
(3) Remove the opener guide, spring(A), door opener, relay gear and limit gear. (See Fig.2-2-3b.)

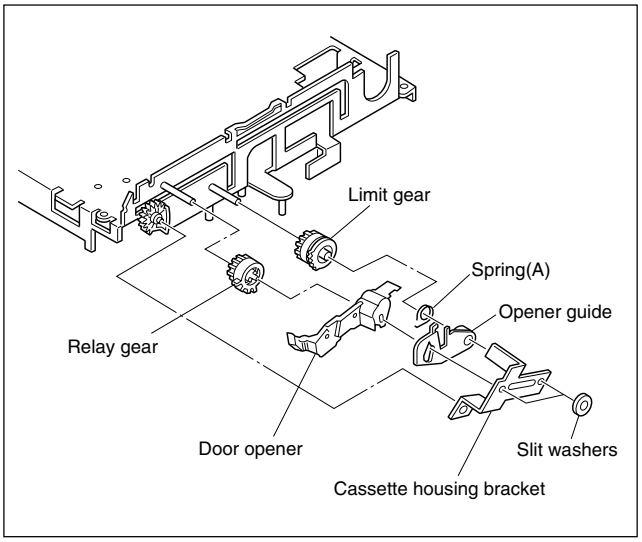


Fig. 2-2-3b

(4) While swinging the lock levers (R) and (L) of the cassette holder assembly toward the front, slide the cassette holder assembly until its legs come to where the guide rail and the roller cam assembly have been removed (so that the drive arm is upright). (See Fig.2-2-3c.)

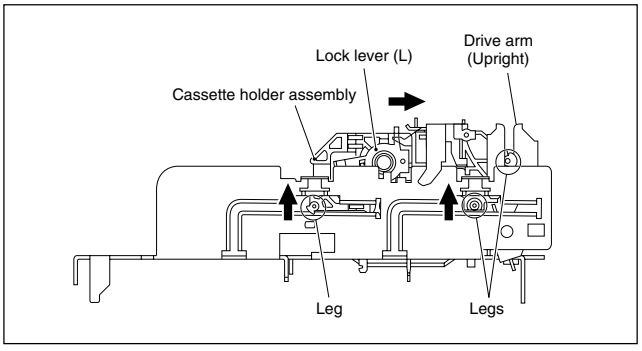


Fig. 2-2-3c

(5) While holding the left side of the cassette holder, lift the cassette holder assembly so that the three legs on the left side are all released. Then pull the legs (A) and (B) on the right side out of the rail and also pull up the leg(C). (See Fig.2-2-3d and Fig.2-2-3e.)
(6) Draw out the drive gear, and remove the drive arm.

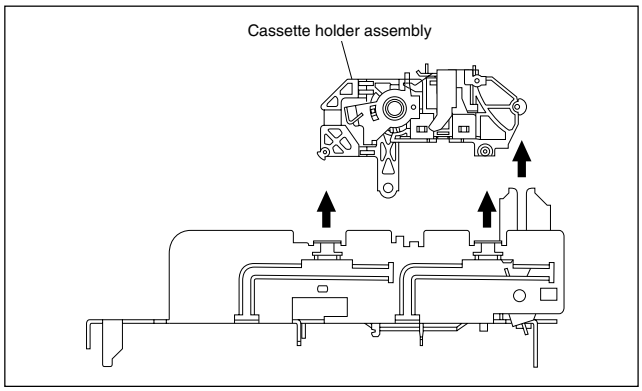


Fig. 2-2-3d

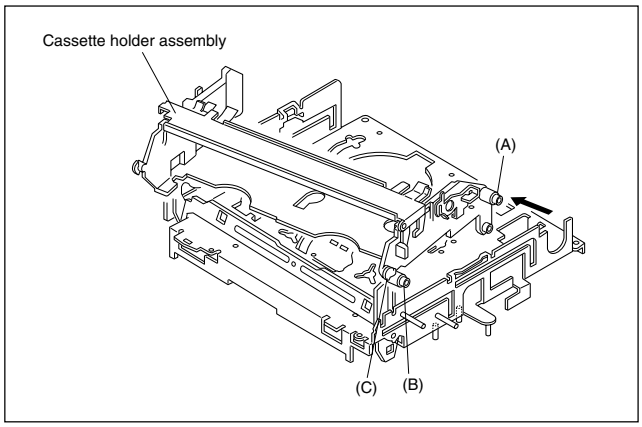


Fig. 2-2-3e

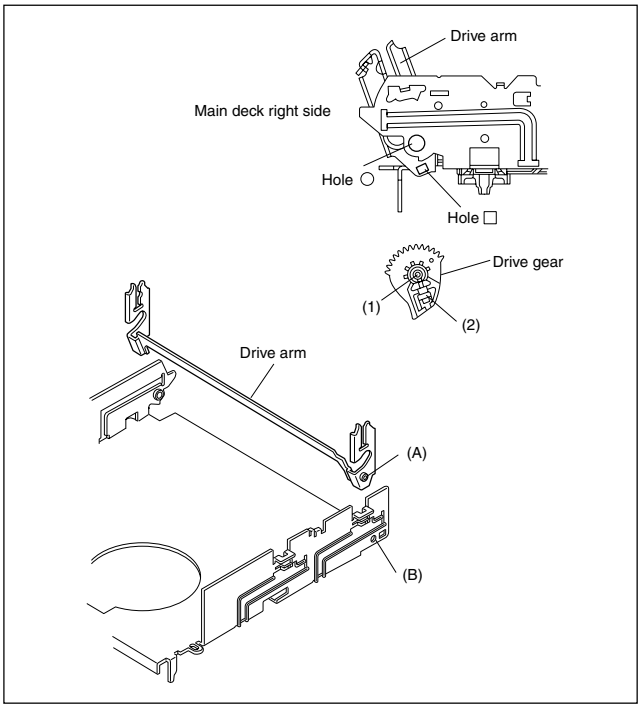


Fig. 2-2-3f

2. How to install (Phase matching)
(1) Insert the section (A) of the drive arm into the section (B) of the main deck.
(2) Insert the section (1) of the drive gear into the round hole, and the section (2) into the square hole on the drive arm. (See Fig.2-2-3f.)
(3) Hold the drive arm upright and fit the leg (C) on the right side of the cassette holder assembly into the groove. (See Fig.2-2-3g.)
(4) While swinging the lock lever (R) of the cassette holder assembly toward the front, put the legs (A) and (B) into the rail. (See Fig.2-2-3g.)
(5) Drop the three legs on the left side of the cassette holder assembly into the groove at one time. (See Fig.2-2-3h.)
(6) Slide the whole cassette holder assembly toward the front to bring it to the eject end position.
(7) Install the limit gear so that the notch on the outer circumference of the limit gear is brought into alignment with the guide hole on the main deck. (See Fig.2-2-3i.)
(8) Install so that the notch on the periphery of the relay gear is aligned with the notch of the main deck and that hole A of the relay gear is aligned with the hole A of the limit gear and that hole B of the relay gear is aligned with the hole B of the drive gear. (See Fig.2-2-3i.)
(9) Install the door opener, opener guide, spring(A) and cassette housing bracket and fasten the two slit washers.

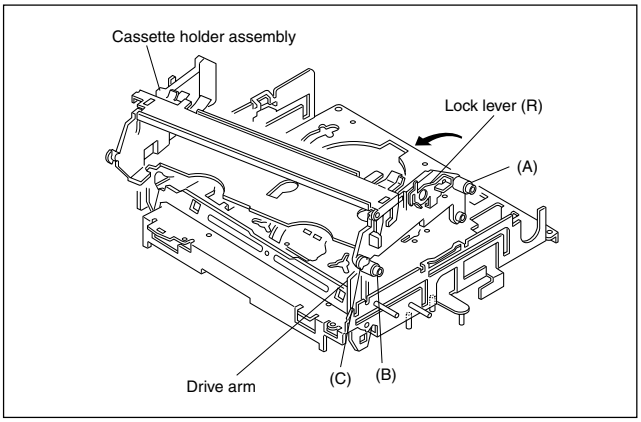


Fig. 2-2-3g

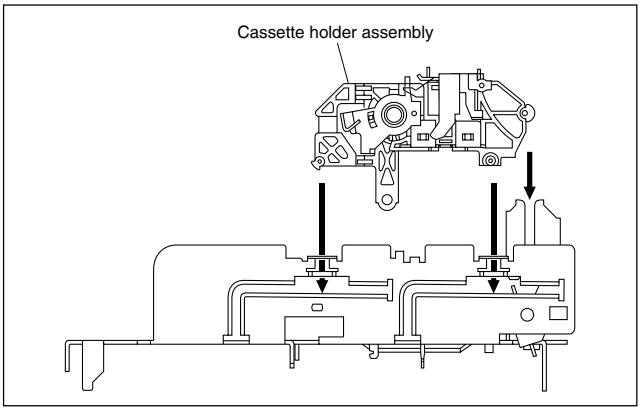


Fig. 2-2-3h

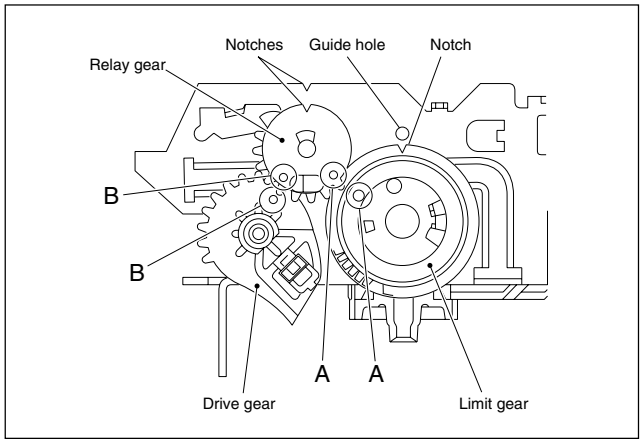


Fig. 2-2-3i

2.2.4 Pinch roller arm assembly

1. How to remove

(1) Remove the spring from the hook of the press lever assembly.
(2) Remove the slit washer and remove the pinch roller seat 2. (See Fig.2-2-4a.)
(3) Remove the pinch roller arm assembly by pulling it up.

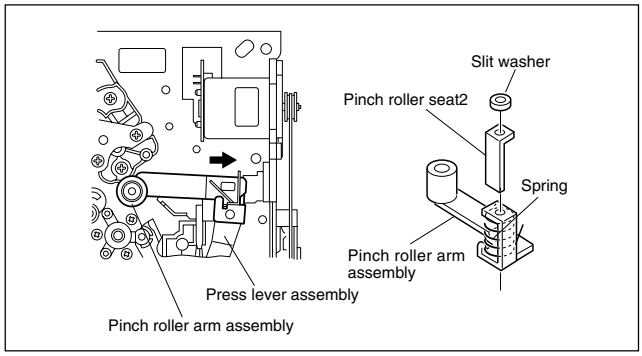


Fig. 2-2-4a

2.2.5 Guide arm assembly and press lever assembly

1. How to remove

(1) Remove the spring and expand the lug of the lid guide in the arrow-indicated direction. Then remove the guide arm assembly by pulling it up.
(2) Remove the press lever assembly by pulling it up. (See Fig.2-2-5a.)

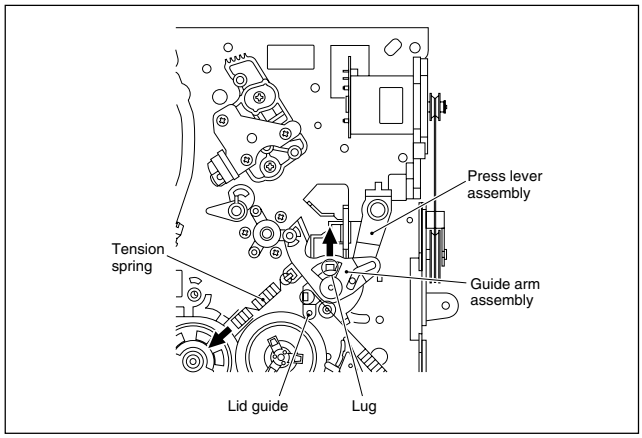


Fig. 2-2-5a

2.2.6 A/C head

1. How to remove

(1) Remove the two screws (A) and remove the A/C head together with the head base.
(2) When replacing only the A/C head, remove the three screws (B) while controlling the compression spring.

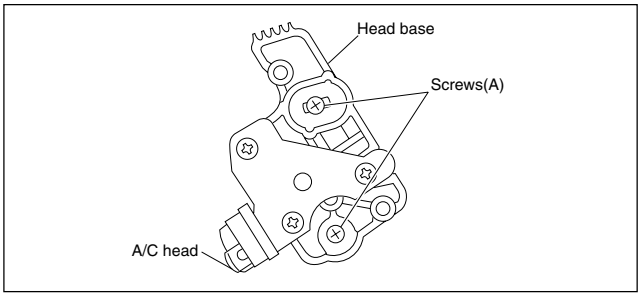


Fig. 2-2-6a

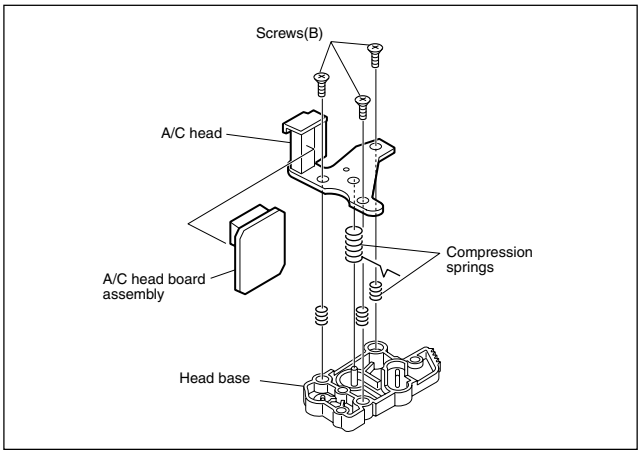


Fig. 2-2-6b

2. How to install

(1) To make the post-installation adjustment easier, set the temporary level as indicated in Fig.2-2-6c. Also make sure that the screw center (centre) is brought into alignment with the center (centre) position of the slot.

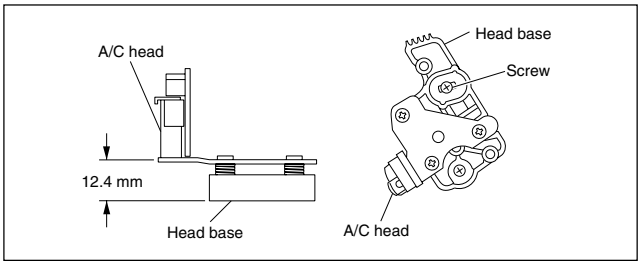


Fig. 2-2-6c

2.2.7 Loading motor

1. How to remove

(1) Remove the belt wound around the worm gear.
(2) Open the two lugs of the motor guide and remove the loading motor, loading motor board assembly and motor guide altogether by pulling them up.
(3) When replacing the loading motor board assembly, take care with the orientation of the loading motor. (Install so that the loading motor label faces upward.)
(4) When the motor pulley has been replaced, choose the fitting dimension as indicated in Fig.2-2-7a.

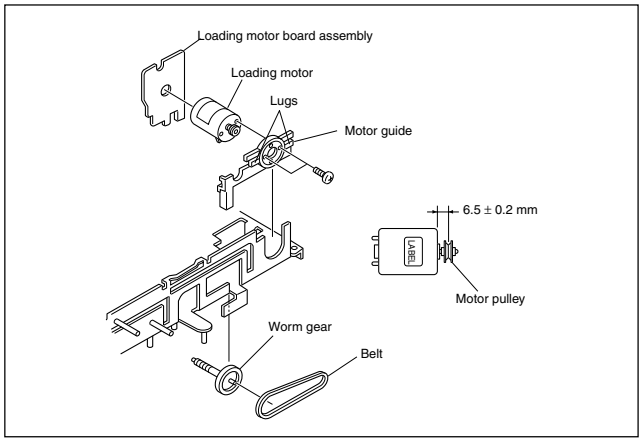


Fig. 2-2-7a

2.2.8 Capstan motor

1. How to remove

(1) Remove the belt (capstan) on the mechanism assembly back side.
(2) Remove the three screws (A) and remove the capstan motor.

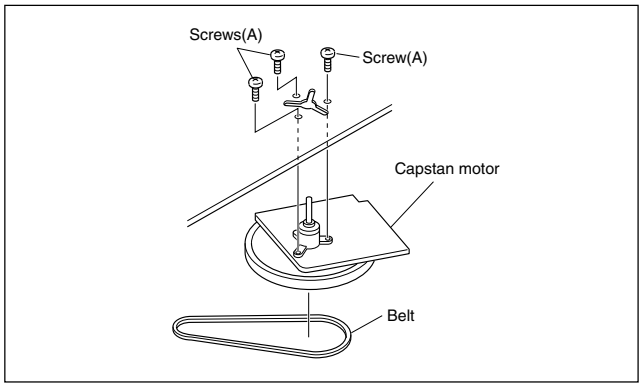


Fig. 2-2-8a

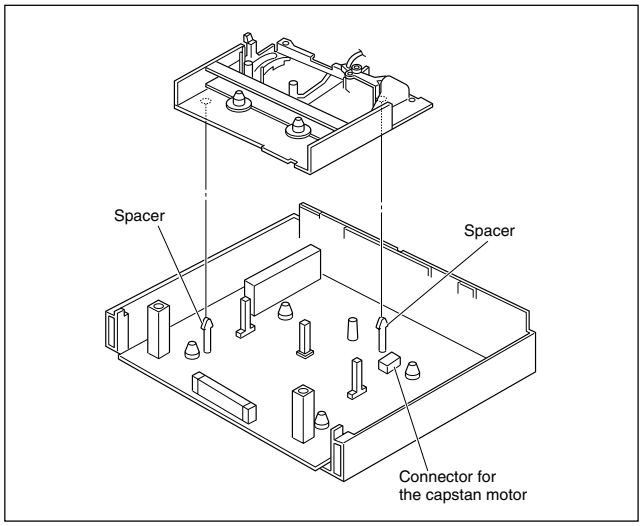


Fig. 2-2-8b

2. How to install (Centering the mounting position)

When the capstan motor has once been removed and then reinstalled out of the initial correct position in the rotational direction, the capstan motor current may be unstable during operation in high or low temperatures. This may result in greater Wow & Flutter and occasionally in power breakdown because of current over - load. Install the capstan motor while following the procedure given below.
(The capstan motor is centrally located when the unit is shipped from the factory.)

(1) Provisionally tighten the three screws (A) securing the capstan motor.
(2) Install the mechanism assembly to which the capstan motor is provisionally fastened on the bottom chassis which incorporates the Main board assembly. (No need to tighten the screws for mounting the mechanism.)
Make sure that all the connectors for the mechanism assembly and the Main board assembly are correctly installed as indicated in Fig. 2-2-8b.
(3) Making sure that the connector for the capstan motor is correctly mounted, and securely tighten the three screws (A).

Note:

- ***When the capstan motor has been replaced with a new one, perform recording in the EP(or LP) mode for at least 2 minutes at normal temperatures immediately before starting the FF/REW or SEARCH operations (Aging).***

2.2.9 Pole base assembly (supply or take-up side)

1. How to remove

(1) Remove the UV catcher 2 on the removal side by loosening the screw (A).
(2) Remove the pole base assembly on the supply side from the mechanism assembly by loosening the screw (B) on the mechanism assembly back side and sliding the pole base assembly toward the UV catcher 2.
(3) As for the pole base assembly on the take-up side, turn the pulley of the loading motor to lower the cassette holder because the screw (B) is hidden under the control plate. (See the “Procedures for Lowering the Cassette holder assembly” of 1.3 DISASSEMBLY/ASSEMBLY METHOD.) Further turn the motor pulley to move the cassette holder until the screw (B) is no longer under the control plate (in the half-loading position). Then remove it as done for the supply side by removing the screw (B).

Note:

- ***After reinstalling the Pole base assembly and the UV catcher2, be sure to perform compatibility adjustment.***

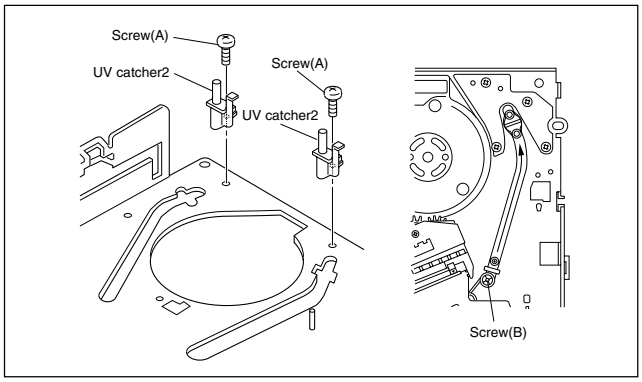


Fig. 2-2-9a

2.2.10 Rotary encoder

1. How to remove

(1) Remove the screw (A) and remove the rotary encoder by pulling it up. (See Fig. 2-2-10a.)

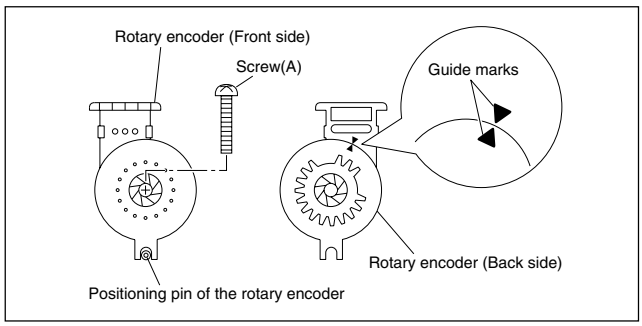


Fig. 2-2-10a

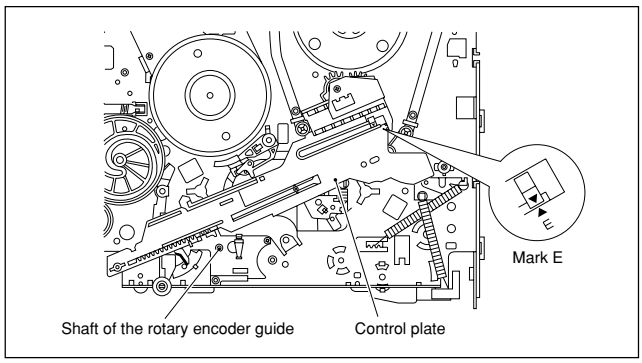


Fig. 2-2-10b

2. How to install (Phase matching)

(1) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft and bring the guide marks on the rotary encoder into alignment as indicated in Fig.2-2-10a. (See Fig. 2-2-10a and Fig. 2-2-10b.)

(2) Turn over the rotary encoder with its guide marks kept in alignment and install it by fitting on the shaft of the rotary encoder guide and the positioning pin.

(3) Tighten the screw (A) to complete the installation.

2.2.11 Clutch unit

(1) Remove the belt wound around the capstan motor and the clutch unit.

(2) Remove the slit washer and remove the clutch unit.

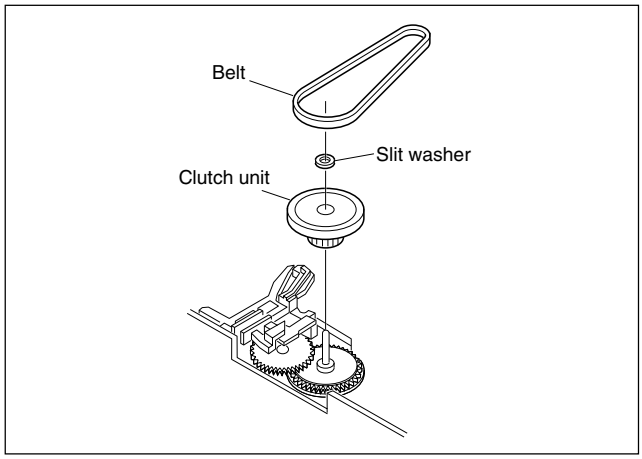


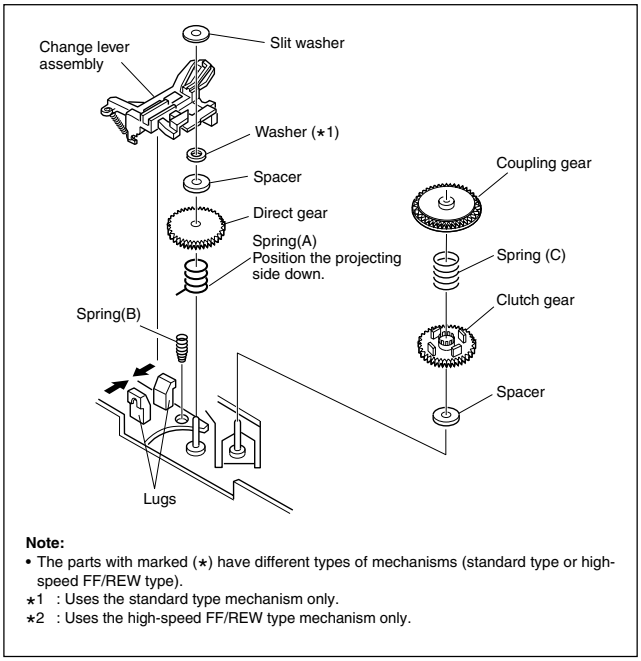
Fig. 2-2-11a

2.2.12 Change lever assembly, direct gear, clutch gear and coupling gear

1. How to remove

(1) Release the two lugs of the rotary encoder guide in the arrow-indicated direction and remove the change lever assembly.

(2) Remove the slit washer retaining the direct gear and remove the latter.
Take care so as not to lose the washer and spring. (See Fig.2-2-12a.)



Note:
- The parts with marked (*) have different types of mechanisms (standard type or high-speed FF/REW type).

*1 : Uses the standard type mechanism only.
*2 : Uses the high-speed FF/REW type mechanism only.

Fig. 2-2-12a

2. How to install

(1) Install the clutch gear, spring (A), spring (C), direct gear, spacer and others to the individual shafts of the main deck, and finally the slit washer. (See Fig.2-2-12a.)

(2) Let the spring (B) drops into the rotary encoder guide hole and install the change lever assembly.(Take care not to mistake a direction of the spring.) The point is to slightly lift the coupling gear and catch it from the both sides with the assembly. (See Fig.2-2-12b.)

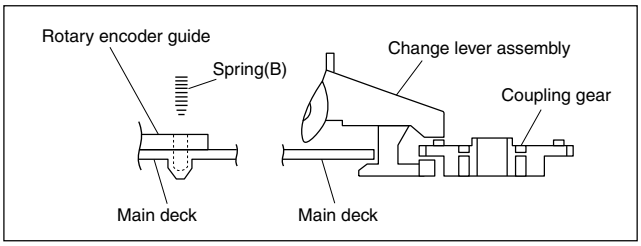


Fig. 2-2-12b

2.2.13 Link lever

1. How to remove

(1) Remove the two slit washers.
(2) Remove the link lever by lifting it from the shaft retained by the slit washers. Then swing the link lever counterclockwise and remove it from the locking section of the control plate.

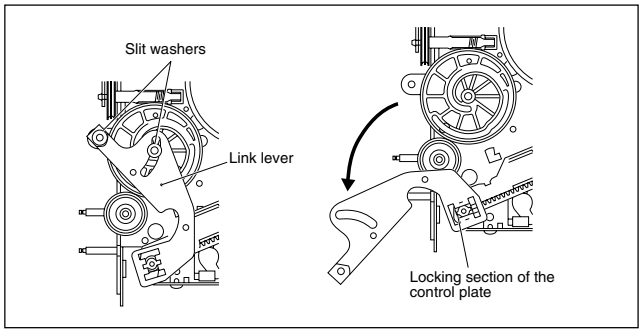


Fig. 2-2-13a

2. How to install (Phase matching)

(1) Slide the control plate so that its mark E is aligned with the mark ▼ on the loading arm gear shaft. (See Fig.2-2-13b.)
(2) Rotate the worm gear until the guide hole of the control cam is aligned exactly with the guide hole of the main deck. (See Fig.2-2-13c.)
(3) Insert the link lever into the locking section of the control plate. (See Fig.2-2-13a.)
(4) Rotate the link lever clockwise so that it is installed on the shafts in the center (centre) and on the left of the control cam.
(5) Fasten the slit washers at these two points.

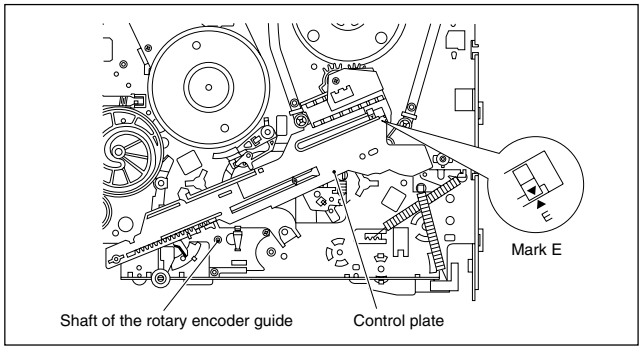


Fig. 2-2-13b

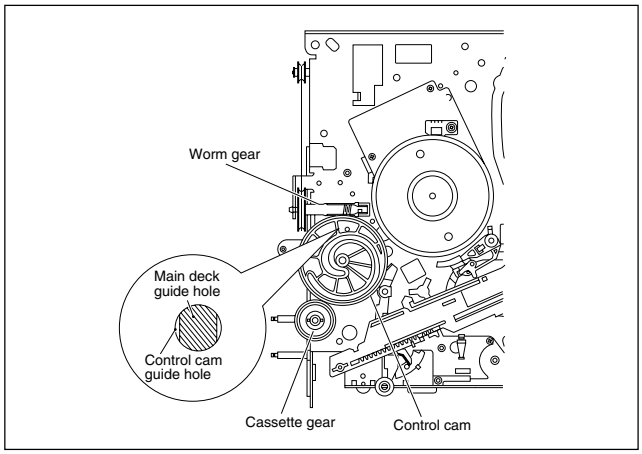


Fig. 2-2-13c

2.2.14 Cassette gear, control cam and worm gear

1. How to remove

(1) Remove the control cam by lifting it.
(2) Open the two lugs of the cassette gear outward and pull the latter off.
(3) Remove the belt wound around the worm gear and the loading motor.
(4) Open the lug of the lid guide outward and remove the worm gear.

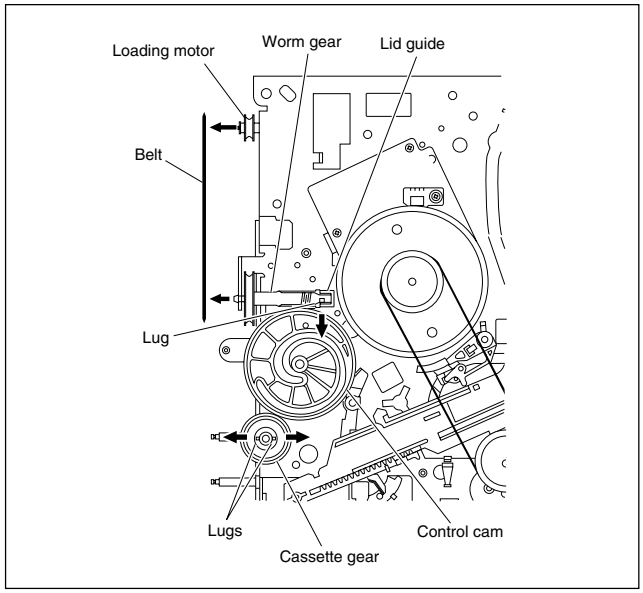


Fig. 2-2-14a

2.2.15 Control plate

1. How to remove

(1) Remove the screw (A) retaining the control bracket 1 and remove the latter.
(2) Slide the control plate as indicated by the arrow and remove the control plate. (See Fig.2-2-15a.)

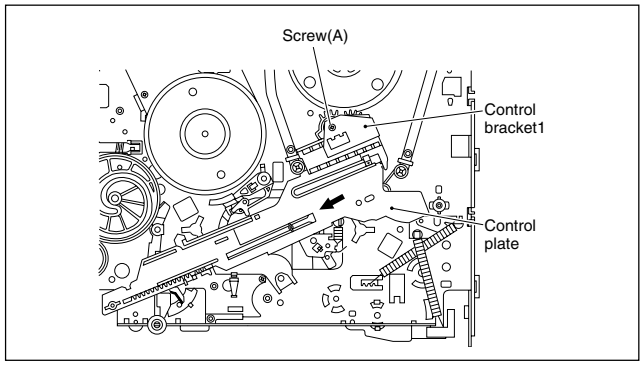


Fig. 2-2-15a

2. How to install (Phase matching)

(1) Adjust the position of the idler arm assembly pin as indicated in Fig.2-2-15b (to the left of center (centre) of the R section).
(2) Bring the guide hole of the take-up lever into alignment with the hole at the control plate guide and fix the position by inserting a 1.5 mm hexagonal wrench.

(3) Install the control plate so that the section A of the loading arm gear shaft fits into the hole (A) of the control plate, the section B of the control plate guide into the hole (B), and the control plate comes under the section C of the rotary encoder guide and the section D of the loading arm gear shaft while press-fit the pole base assmebly (supply side) as indicated by the arrow. It is important that the tension arm assembly shaft is positioned closer toward you than the control plate. (See Fig.2-2-15c.)
(4) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft. (See Fig.2-2-15c.)
(5) Pull off the hexagonal wrench for positioning.

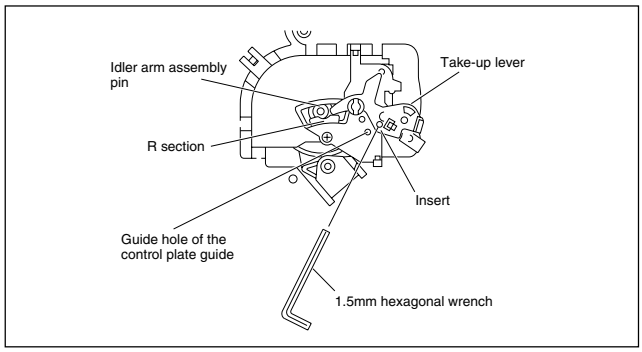


Fig. 2-2-15b

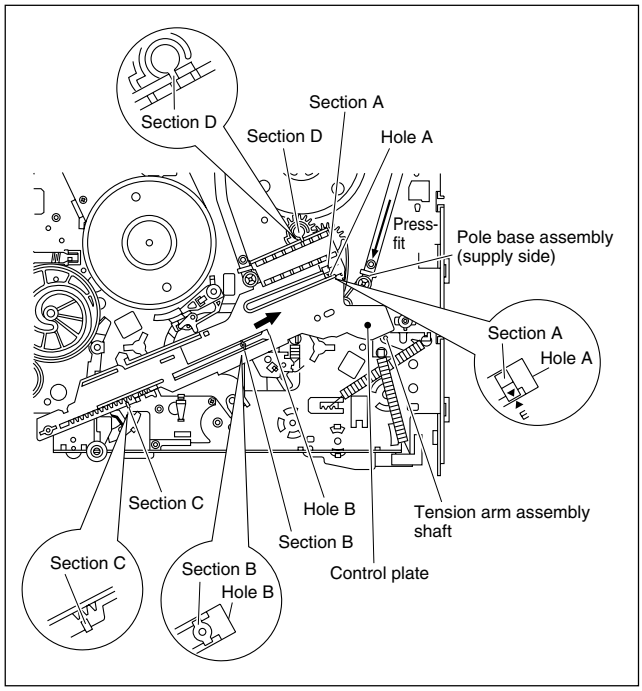


Fig. 2-2-15c

2.2.16 Loading arm gear (supply or take-up side) and loading arm gear shaft

1. How to remove

(1) Remove the loading arm gear (supply side) by loosening the screw (A). (See Fig. 2-2-16a.)
(2) Remove the screw (B) and remove the torsion arm from the pole base assembly (take-up side). (See Fig.2-2-16a.)
(3) Turn the loading arm gear (take-up side) clockwise so that the notch of the loading arm gear (take-up side) is in alignment with the projection of the loading arm gear shaft and lift it.
Likewise, turn the loading arm counterclockwise so that the notch is in alignment with the projection and remove the loading arm gear (take-up side). (See Fig.2-2-16a and Fig. 2-2-16b.)
(4) When removing the loading arm gear shaft, be sure of first removing the screw retaining the drum assembly (on the back side of the loading arm gear shaft). Then remove the screw (C) and remove the loading arm gear shaft by sliding it.

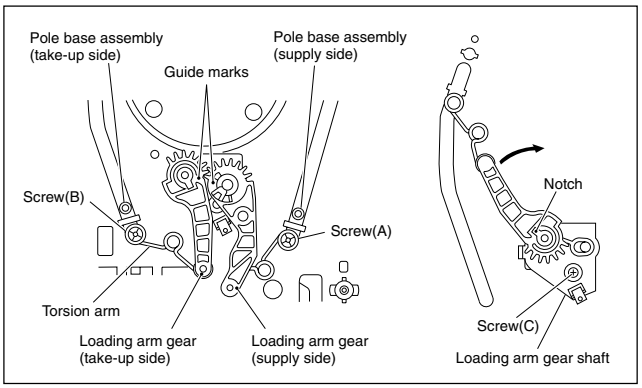


Fig. 2-2-16a

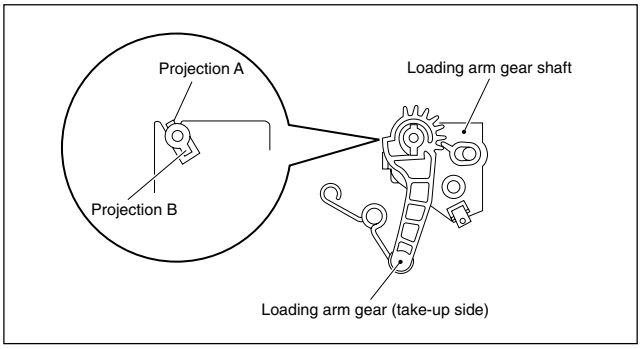


Fig. 2-2-16b

2. How to install

(1) Align the notch of the loading arm gear (take-up side) to the projection B of the loading arm gear shaft and slip it over. Then rotate it clockwise for alignment with the projection A and slip it down to the bottom. (See Fig.2-2-16b.)
(2) Then turn the loading arm gear (take-up side) counterclockwise. Hang the torsion arm on the pole base assembly (take-up side) and tighten the screw (B).
(3) Install the loading arm gear (supply side) so that the guide mark of the loading arm gear (take-up side) is in alignment with the guide mark of the loading arm gear (supply side). Then hang the torsion arm on the pole base assembly (supply side) and tighten the screw (A). (See Fig.2-2-16a.)

2.2.17 Take-up lever, take-up head and control plate guide

(1) Remove the spring of the take-up lever from the main deck.
(2) Remove the lug (A) of the take-up lever from the main deck and pull out the take-up lever and the take-up head together.
(3) Remove the screw (A).
(4) Align the idler arm assembly pin in the center (centre) of the R section of the control plate guide, remove the control plate guide lugs (B) and (C) from the main deck, and remove the control plate guide.

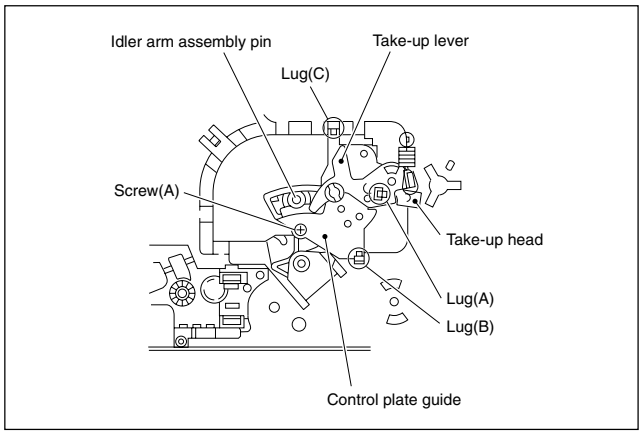


Fig. 2-2-17a

2.2.18 Capstan brake assembly

1. How to remove

(1) Move the lug (A) of the capstan brake assembly in the arrow-indicated direction so that it comes into alignment with the notch of the main deck. (See Fig. 2-2-18a.)
(2) Remove the lug (B) of the capstan brake assembly from the main deck and remove the capstan brake assembly.

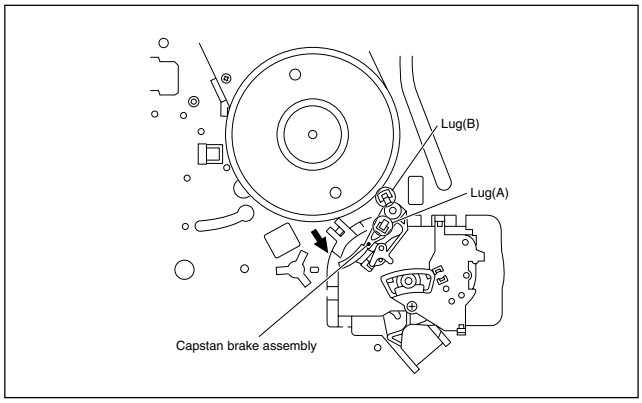


Fig. 2-2-18a

2.2.19 Sub brake assembly (take-up side)

1. How to remove

(1) Remove the spring attached to the lid guide and sub brake assembly (take-up side).
(2) Bring the lug (A) of the sub brake assembly (take-up side) into alignment with the notch of the main deck.
(3) Remove the lugs (B) and (C) of the sub brake assembly (take-up side) from the main deck and remove the sub brake assembly (take-up side).

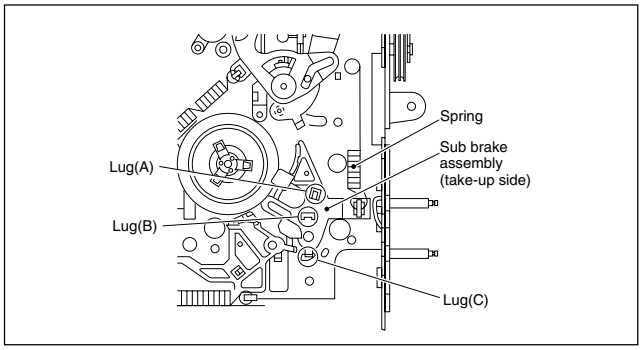


Fig. 2-2-19a

2.2.20 Main brake assembly (take-up side), reel disk (take-up side) and main brake assembly (supply side)

1. How to remove

(1) Move the main brake assembly (take-up side) in the arrow-indicated direction and remove the reel disk (take-up side).
(2) Remove the spring attached to the main brake assembly.
(3) Remove the lug (A) of the main brake assembly (take-up side) and pull out the lug (B) after bringing it into alignment with the main deck notch.
(4) Remove the lugs (C), (D) and (E) of the main brake assembly (supply side) from the main deck and pull them off. (See Fig.2-2-20a.)
(5) When installing the main brake assembly (take-up side), slide the brake lever in the direction as indicated by the arrow to prevent it from hitting the projection of the main brake assembly (take-up side). (See Fig.2-2-20b.)

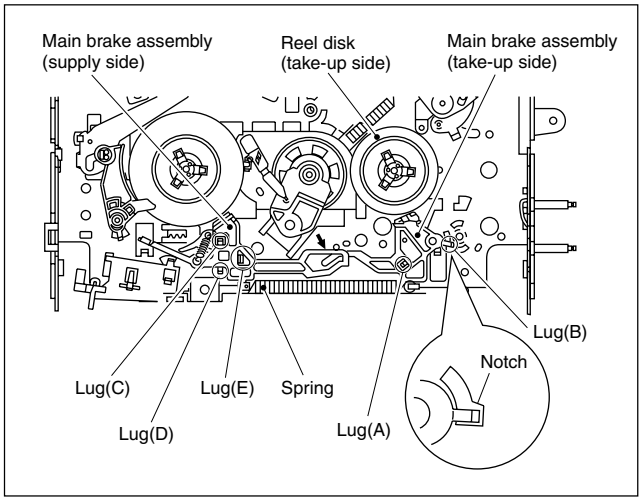
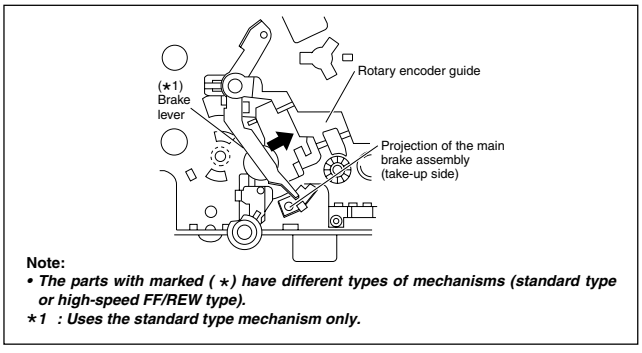


Fig. 2-2-20a



Note:
• The parts with marked (∗) have different types of mechanisms (standard type or high-speed FF/REW type).
∗1 : Uses the standard type mechanism only.

Fig. 2-2-20b

2.2.21 Tension brake assembly, reel disk (supply side) and tension arm assembly

1. How to remove

(1) Remove the three lugs of the tension brake assembly from the main deck and pull them off.
(2) Remove the reel disk (supply side) by loosening in the arrow-indicated direction the main brake assembly (supply side).
(3) Remove the tension spring on the back of the main deck. Then release the lug of the tension arm bearing in the arrow-indicated direction and draw out the tension arm assembly. (See Fig. 2-2-21a.)

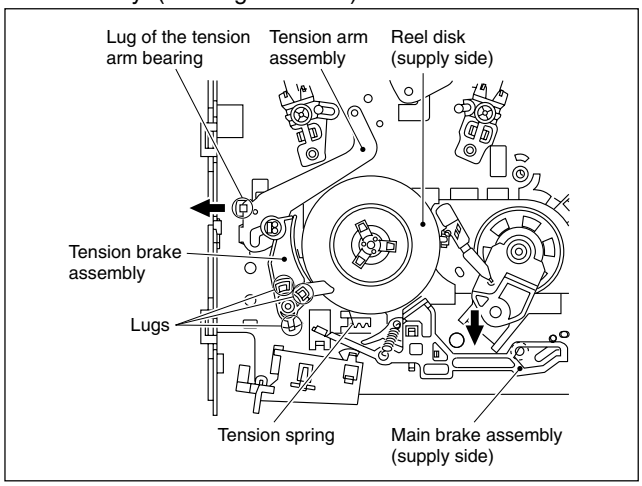


Fig. 2-2-21a

2.2.22 Idler lever, idler arm assembly

1. How to remove

(1) Remove the lug of the idler lever from the main deck and remove the hook fitted in the idler arm assembly hole by lifting it.
(2) Remove the slit washer and pull out the idler arm assembly.

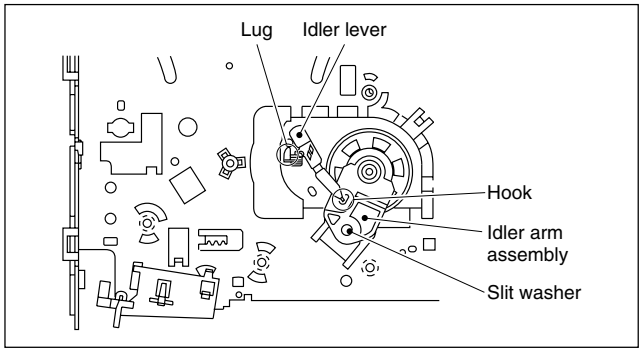


Fig. 2-2-22a

2.2.23 Stator assembly

(1) Remove the flat cable.
(2) Remove the two screws (A), (B) and remove the lug wire.
(3) Remove the stator assembly by lifting in the arrow-indicated direction. (Take care that the brush spring does not jump out.)

Notes:

- ***Be careful not to lose the brush and spring.***
- ***There are some models that do not use the lug wire. Refer to the parts list for these models.***
- ***When tightening the screw (B), place the caulked part of the lug terminal near to the shaft of the drum and then tighten it.***
- ***After installation, be sure to perform the switching point adjustment according to the electrical adjustment procedure.***

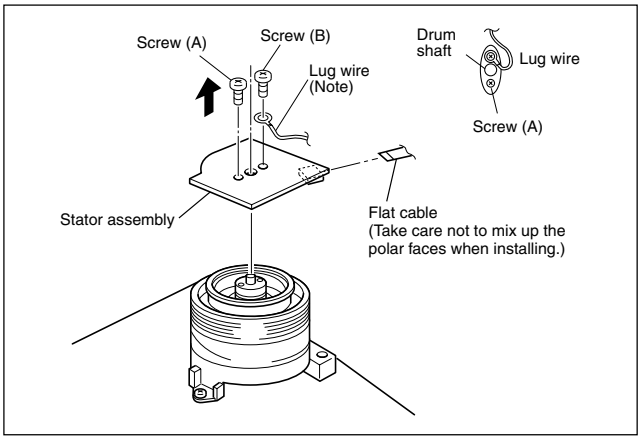


Fig. 2-2-23a

2.2.24 Rotor assembly

1. How to remove

(1) Remove the stator assembly.
(2) Remove the two screws (B) and remove the rotor assembly.

2. How to install

(1) Match the phases of the upper drum assembly and the rotor assembly as indicated in Fig.2-2-24a.
(2) Place the upper drum assembly hole (a) over the rotor assembly holes (b) (with three holes to be aligned) and tighten the two screws (B). (See Fig.2-2-24a.)

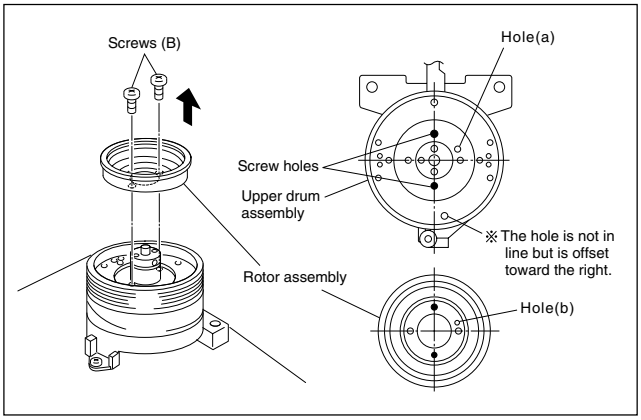


Fig. 2-2-24a

2.2.25 Upper drum assembly

Notes:

- ***To replace the upper drum assembly only may not be possible with some models. For upper drum assembly replacement, refer to the parts list. (When the parts number of the upper drum assembly is not listed on the parts list, then this cannot be replaced.)***
- ***When replacement is required, control the up- down movement of the brush. Never apply grease.***
- ***When replacing the upper drum assembly, replace it the together with the washer.***

1. How to remove

(1) Remove the stator assembly and rotor assembly.
(2) Loosen the screw of the collar assembly using a 1.5 mm hexagonal wrench and remove the collar assembly. Also remove the brush, spring and cap at one time.
(3) Remove the upper drum assembly and remove the washer using tweezers.

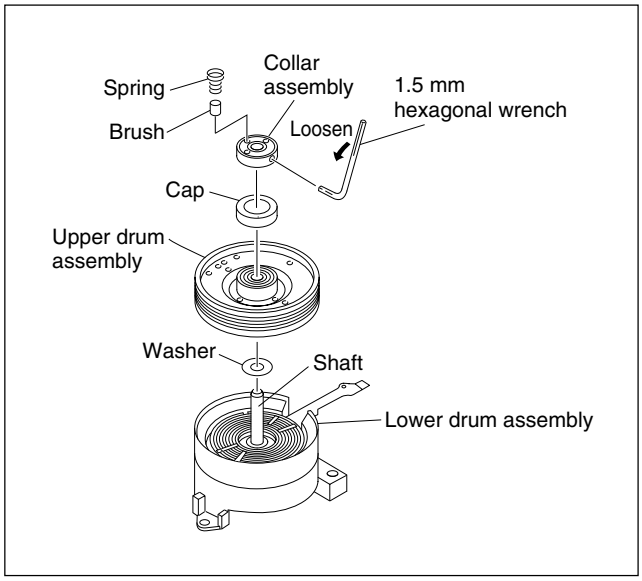


Fig. 2-2-25a

2. How to install

(1) Clean the coil parts of the lower drum assembly and the newly installed upper drum assembly with an air brush in advance. (See Fig.2-2-25b.)
(2) Install a new washer and upper drum assembly on the drum shaft. (See Fig.2-2-25a.)
(3) Install the cap to the upper drum assembly.
(4) Position the collar assembly as indicated in Fig.2-2-25c while controlling its up- down movement.
(5) Secure the collar assembly in position with a hexagonal wrench while pressing its top with the fingers.
(6) After installation, gently turn the upper drum assembly with your hand to make sure that it turns normally. Then install the brush and the spring.
(7) Install the rotor assembly and stator assembly according to Fig 2-2-23a and 2-2-24a.
(8) When installation is complete, clean the upper drum assembly and lower drum assembly and carry out the following adjustments.
    - PB switching point adjustment
    - Slow tracking adjustment
    - Compatibility adjustment (Be sure to check for compatibility for the EP (or LP) mode.)

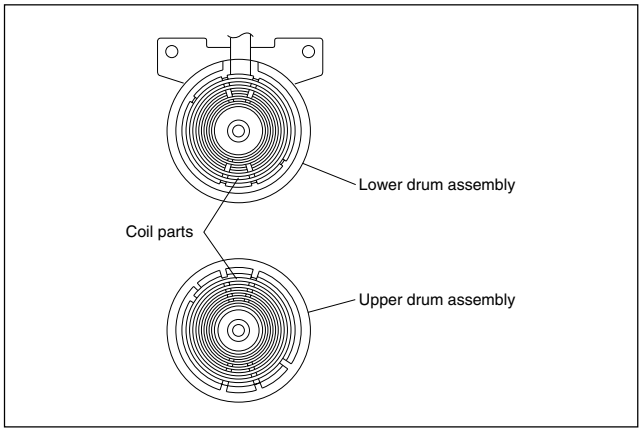


Fig. 2-2-25b

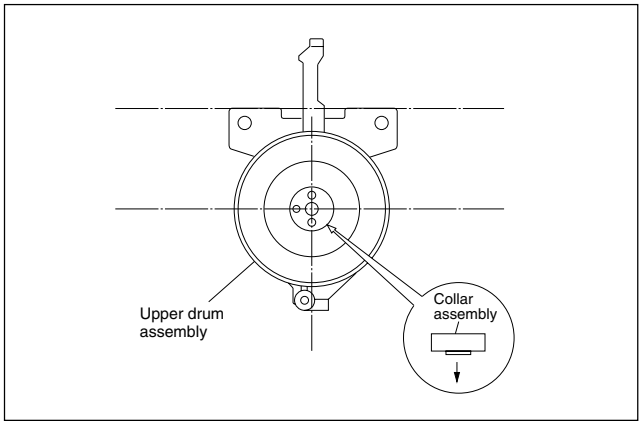


Fig. 2-2-25c

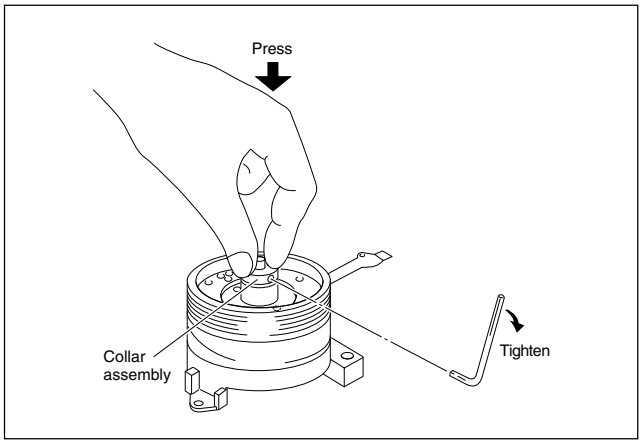


Fig. 2-2-25d

2.3 Compatibility adjustment

Notes:

- ***Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when you have replaced the A/C head, drum assembly or any part of the tape transport system.***
- ***To avoid any damage to the alignment tape while performing the compatibility adjustment, get a separate cassette tape (for recording and play back) ready to be used for checking the initial tape running behavior.***
- ***Unless otherwise specified, all measuring points and adjustment parts are located on the Main board.***
- ***When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). (See SECTION 1 DISASSEMBLY.)***

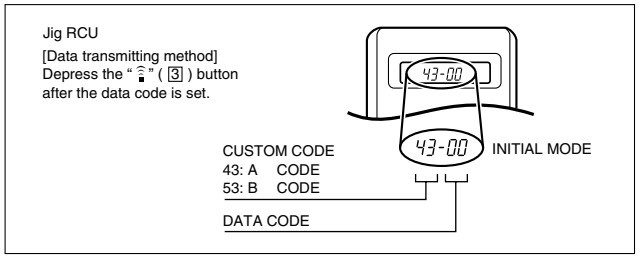


Fig. 2-3a Jig RCU [PTU94023B]

2.3.1 FM waveform linearity

Signal	(A1) (A2)	• Alignment tape(SP, stairstep, NTSC) [MHP] • Alignment tape(EP, stairstep, NTSC) [MHP-L]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB. FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Guide roller [Mechanism assembly]
Specified value	(G)	• Flat V.PB FM waveform
Adjustment tool	(H)	• Roller driver [PTU94002]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Make sure that there is no significant level drop of the V.PB FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig. 2-3-1a.)
(5) Reduce the V.PB FM waveform by the tracking operation. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver to make the V.PB FM waveform linear.
If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the roller driver to make it linear. (See Fig. 2-3-1c.)
(6) Make sure that the V.PB FM waveform varies in parallel and linearly with the tracking operation again. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
(7) Unload the cassette tape once, play back the alignment tape (A1) again and confirm the V.PB FM waveform.
(8) After adjustment, confirm that the tape wrinkling does not occur at the roller upper or lower limits. (See Fig. 2-3-1d.)

[Perform adjustment step (9) only for the models equipped with SP mode and EP (or LP) mode.]

(9) Repeat steps (1) to (8) by using the alignment tape (A2).

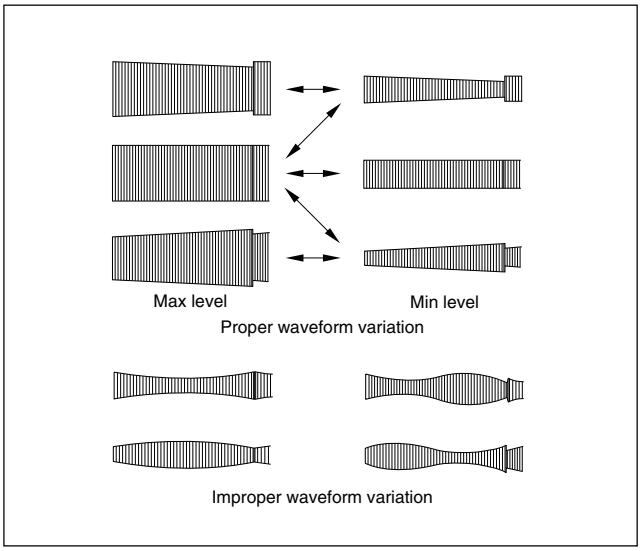


Fig. 2-3-1a

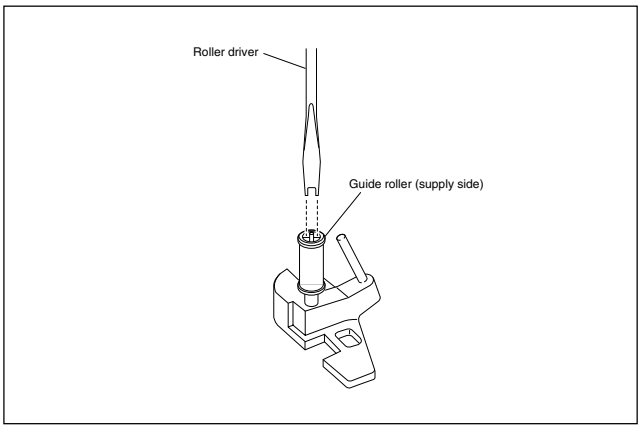


Fig. 2-3-1b

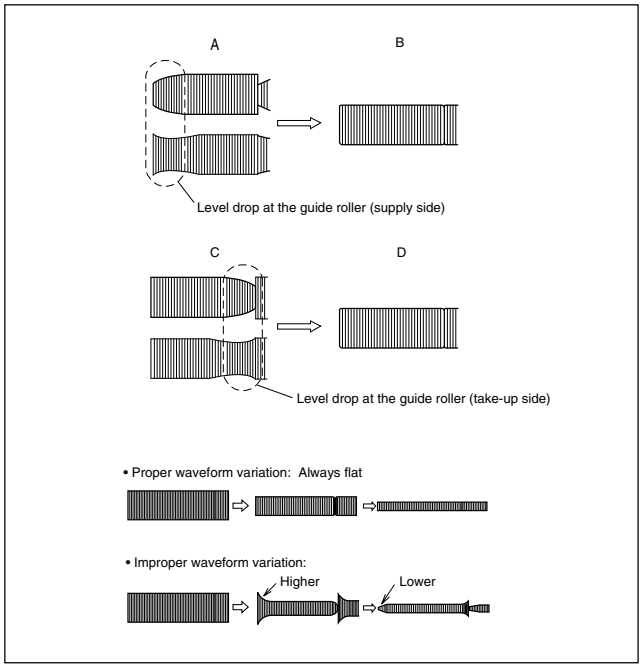


Fig. 2-3-1c

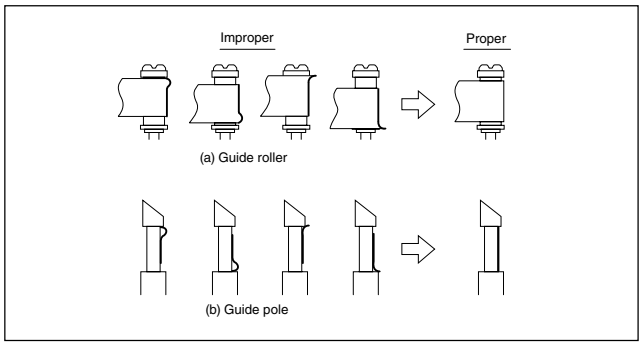


Fig. 2-3-1d

2.3.2 Height and tilt of the A/C head

Note:

- ***Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (See Fig.2-2-6c.)***

Signal	(A)	• Alignment tape(SP, stairstep, NTSC) [MHP]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• AUDIO OUT terminal • TP4001 (CTL. P)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head [Mechanism assembly]
Specified value	(G)	• Maximum waveform

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the AUDIO OUT waveform and Control pulse waveform at the measuring points (D1) and (D2) in the ALT mode.
(3) Set the VCR to the manual tracking mode.
(4) Adjust the AUDIO OUT waveform and Control pulse waveform by turning the screws (1), (2) and (3) little by little until both waveforms reach maximum. The screw (1) and (3) are for adjustment of tilt and the screw (2) for azimuth.

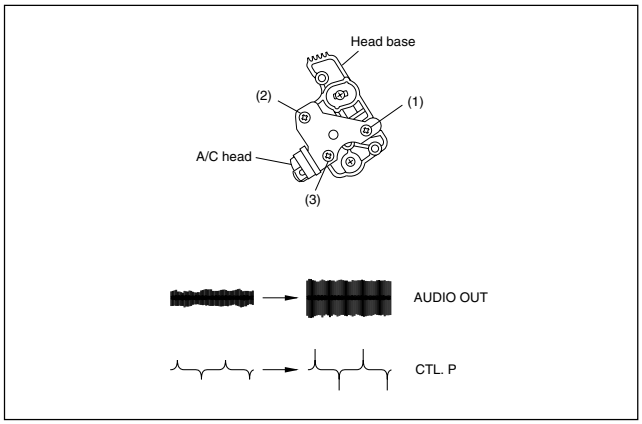


Fig. 2-3-2a

2.3.3 A/C head phase (X-value)

Signal	(A1)	• Alignment tape(SP, stairstep, NTSC) [MHP]
Mode	(B)	• PB
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB-FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• A/C head base [Mechanism assembly]
Specified value	(G)	• Maximum V.PB FM waveform
Adjustment tool	(H)	• A/C head positioning tool [PTU94010]

(1) Play back the alignment tape (A1).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Loosen the screws (4) and (5), then set the A/C head positioning tool to the innermost projected part of the A/C head. (See Fig. 2-3-3a.)
(5) Turn the A/C head positioning tool fully toward the capstan. Then turn it back gradually toward the drum and stop on the second peak point position of the V.PB FM waveform output level. Then tighten the screws (4) and (5).
(6) Perform the tracking operation and make sure that the V.PB FM waveform is at its maximum.
If it is not at maximum, loosen the screws (4) and (5), and turn the A/C head positioning tool to bring the A/C head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

[Perform adjustment steps (7) to (10) only for 2 Head models equipped with LP mode.]

(7) Then play back the alignment tape (A2).
(8) Set the VCR to the manual tracking mode.
(9) Perform the tracking operation and make sure that the V.PB FM waveform is at its maximum.
(10) If it is not at maximum, loosen the screws (4) and (5), and turn the A/C head positioning tool to bring the A/C head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

Note:

- ***After adjusting, always perform the confirmation and re-adjustment of the item 2.3.4.***

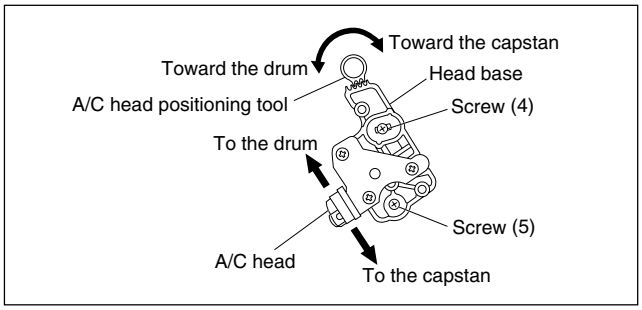


Fig. 2-3-3a

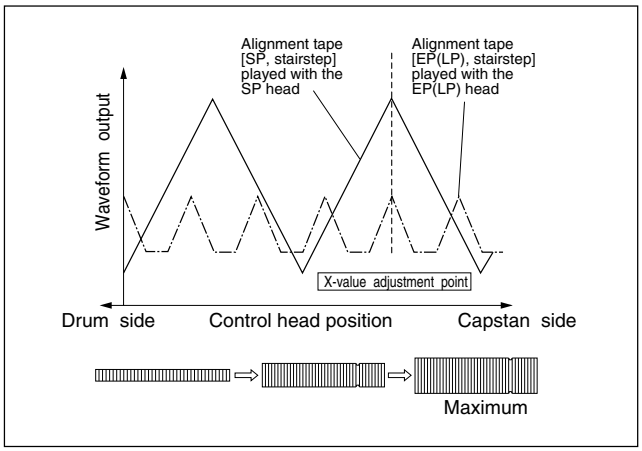


Fig. 2-3-3b

2.3.4 Standard tracking preset

Signal	(A)	• Alignment tape(EP, stairstep, NTSC) [MHP-L]
Mode	(B)	• PB → Auto adjust
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP106 (PB-FM)
External trigger	(E)	• TP111 (D.FF)
Adjustment part	(F)	• Jig RCU: Code “50”
Specified value	(G)	• STOP mode (Maximum V.PB FM waveform)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the alignment tape (A).
(2) Apply the external trigger signal to D.FF (E), to observe the V.PB FM waveform at the measuring point (D).
(3) Confirm that the automatic tracking operation is completed.
(4) Set the VCR to the Auto adjust mode by transmitting the code (F) twice from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed.
(5) If the VCR enters the eject mode, perform adjustment for the audio control head phase (X-value) again.

2.3.5 Tension pole position

Signal	(A)	• Back tension cassette gauge [PUJ48076-2]
Mode	(B)	• PB
Adjustment part	(F)	• Adjust pin [Mechansim assembly]
Specified value	(G)	• 25 - 51 gf•cm (2.45 – 5 × 10^{-3} Nm]

(1) Play back the back tension cassette gauge (A).
(2) Check that the indicated value on the left side gauge is within the specified value (G).
(3) If the indicated value is not within the specified value (G), perform the adjustment in a following procedure.
  1) Set the VCR to the mechanism service mode. (See SECTION 1 DISASSEMBLY.)
  2) Set the VCR to the play back mode and adjust by turning adjustment pin to align the tension arm assembly edge with the main deck hole (A) on the right edge marker. (See Fig. 2-3-5a)

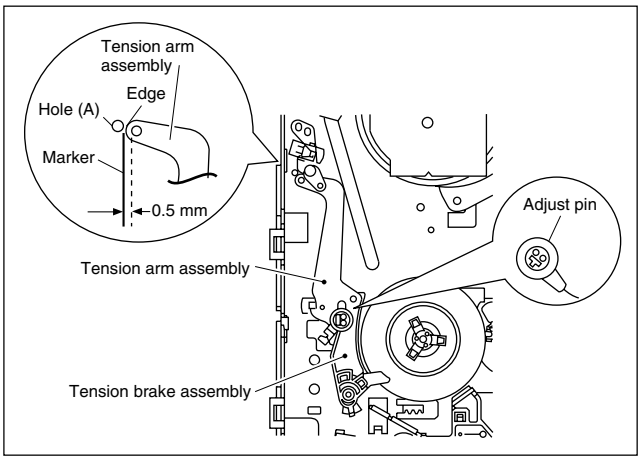
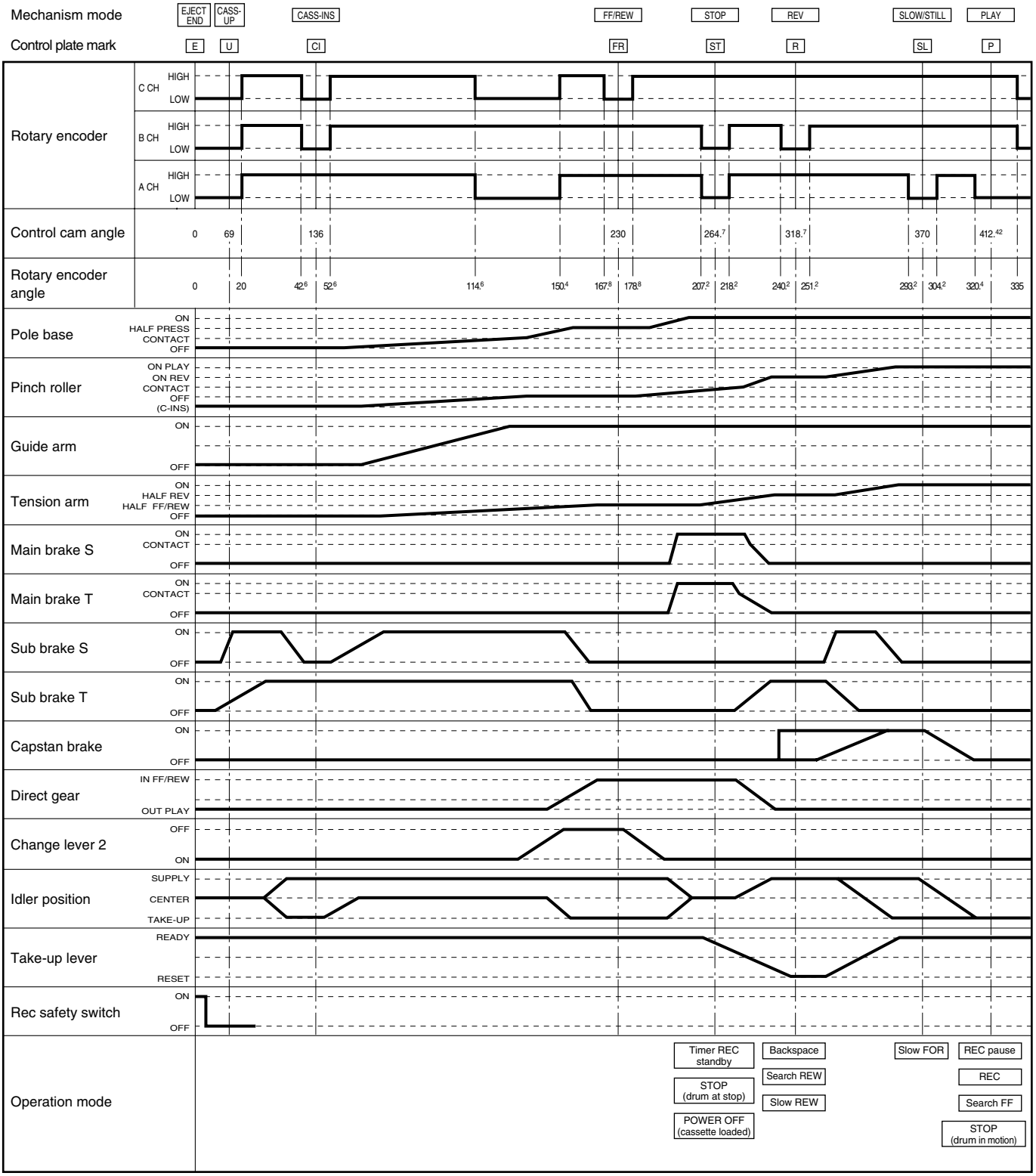


Fig. 2-3-5a

Mechanism Timing Chart



SECTION 3
ELECTRICAL ADJUSTMENT

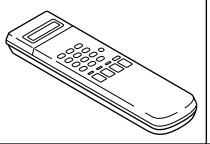
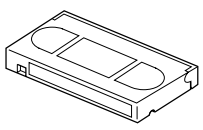
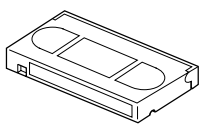
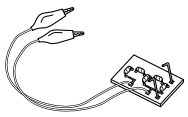
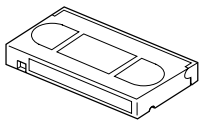
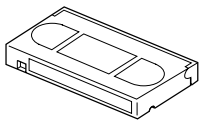
3.1 Precaution

The following adjustment procedures are not only necessary after replacement of consumable mechanical parts or board assemblies, but are also provided as references to be referred to when servicing the electrical circuitry.
In case of trouble with the electrical circuitry, always begin a service by identifying the defective points by using the measuring instruments as described in the following electrical adjustment procedures. After this, proceed to the repair, replacement and/or adjustment. If the required measuring instruments are not available in the field, do not change the adjustment parts (variable resistor, etc.) carelessly.

3.1.1 Required test equipments

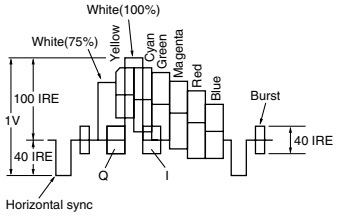
- Color (colour) television or monitor
- Oscilloscope: wide-band, dual-trace, triggered delayed sweep
- Frequency counter
- Audio level meter
- Signal generator: RF / IF sweep / marker
- Signal generator: stairstep, color (colour) bar [NTSC]
- Recording tape
- Digit-key remote controller (provided)

3.1.2 Required adjustment tools

Jig RCU PTU94023B	Alignment tape (SP, stairstep, NTSC) MHP	Alignment tape (D-VHS STD, color (colour) bar) MD-1
		
LPF PTU93006	Alignment tape (S-VHS, SP/EP, color (colour) bar) MH-1H	Alignment tape (D-VHS HS, color (colour) bar) MD-1H
		

3.1.3 Color (colour) bar signal,Color (colour) bar pattern

● **Color bar signal [NTSC]**



● **Color bar pattern [NTSC]**

3.1.4 Switch settings and standard precautions

The SW settings of the VCR and the standard precautions for the electrical adjustments are as follows.

- ***When using the Jig RCU, it is required to set the VCR to the Jig RCU mode (the mode in which codes from the Jig RCU can be received). (See SECTION 1 DISASSEMBLY.)***

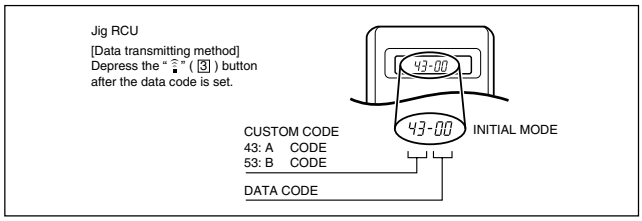


Fig. 3-1-4a Jig RCU [PTU94023B]

- ***Set the switches as shown below unless otherwise specified on the relevant adjustment chart. The switches that are not listed below can be set as desired.***
  If the VCR is not equipped with the functions detailed below, setup is not required.

AUTO PICTURE/VIDEO CALIBRATION/ B.E.S.T./D.S.P.C.	OFF
PICTURE CONTROL/SMART PICTURE	NORMAL/NATURAL
VIDEO STABILIZER	OFF
TBC	ON
Digital 3R	ON
VIDEO NAVIGATION/TAPE MANAGER	OFF

- ***If there is a reference to a signal input methed in the signal column of the adjustment chart, "Ext. S-input" means the Y/C separated video signal and "Ext. input" means the composite video signal input.***
- ***Unless otherwise specified, all measuring points and adjustment parts are located on the D-PRE/REC board.***

3.1.5 EVR Adjustment

Some of the electrical adjustments require the adjustment performed by the EVR system. The main unit have EEPROMs for storing the EVR adjustment data and user setups.

Notes:

- ***In the EVR adjustment mode, the value is varied with the channel buttons (+, –). The adjusted data is stored when the setting mode changes (from PB to STOP, when the tape speed is changed, etc.). Take care to identify the current mode of each adjustment item when making an adjustment.***
- ***When changing the address setting in the EVR adjustment mode, use the Jig RCU or the remote controller having numeric keypad with which a numeric code can be directly input.***
  The remote control code of the Jig RCU corresponds to each of the digit keys on the remote controller as follows.

Digit-key	0	1	2	3	4	5	6	7	8	9
Code	20	21	22	23	24	25	26	27	28	29

- ***As the counter indication and remaining tape indication are not displayed FDP during the EVR adjustment mode, check them on the TV monitor screen.***
- ***When performing the EVR adjustment, confirm that the FDP indication is changed to the EVR mode, as shown below.***

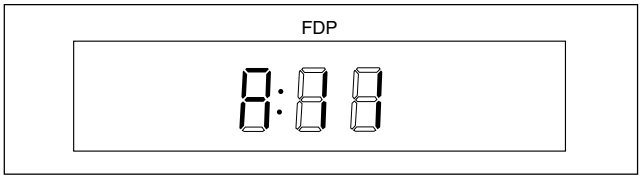


Fig. 3-1-5a EVR mode

3.2 Servo circuit

3.2.1 Switching point

Signal	(A1) (A2)	• Stairstep signal • Alignment tape(SP, stairstep, NTSC) [MHP]
Mode	(B)	• PB • TBC: OFF
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• VIDEO OUT terminal (75Ω terminated) • TP106 (PB-FM) [Main board]
External trigger	(E)	• TP111 (D.FF)/slope : –
Adjustment part	(F)	• Jig RCU: Code “51” or “52”
Specified value	(G)	• 8.0 ± 0.5H
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the signal (A1) of the alignment tape (A2).
(2) Apply the external trigger signal to D.FF (E) to observe the VIDEO OUT waveform and V.PB FM waveform at the measuring points (D1) and (D2).
(3) Set the VCR to the manual tracking mode.
(4) Adjust tracking so that the V.PB FM waveform becomes maximum.
(5) Transmit the code (F) from the Jig RCU to adjust so that the trigger point of the VIDEO OUT waveform is changed from the trailing edge of the V.sync signal becomes the specified value (G).
(6) Set the VCR to the stop mode or eject mode.

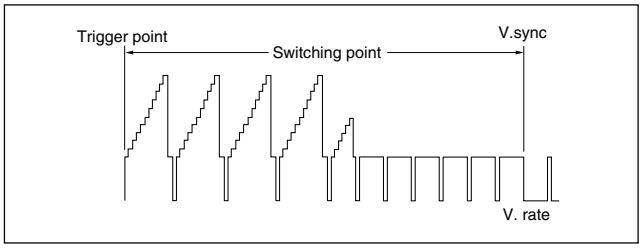


Fig. 3-2-1a Switching point

3.2.2 D-VHS switching point

Signal	(A1) (A2) (A3)	• Color (colour) bar (STD) • Alignment tape [MD-1] (HS) • Alignment tape [MD-1H]
Mode	(B1) (B2) (B3)	• PB • TBC: OFF • D-VHS STD • D-VHS HS
Equipment	(C)	• Oscilloscope
Measuring point	(D)	(STD) • TP606 (PB DATA1) (HS) • TP616 (PB DATA2)
External trigger	(E)	(STD) • TP111 (VIDEO/STD/HS1 FF) (HS) • TP112 (A/HS2 FF)
Adjustment part	(F)	• Jig RCU: Code “51” or “52”
Specified value	(G)	• 230 ± 20µsec
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Play back the signal (A1) of the alignment tape (A2).
(2) Apply the external trigger signal to D.FF (E) to observe the D-VHS envelope waveform at the measuring point (D).
(3) Set the VCR to the manual tracking mode.
(4) Adjust tracking so that the D-VHS envelope waveform becomes maximum.
(5) Transmit the code (F) from the Jig RCU to adjust so that the duration “a” from the waveform end (Hi/Low switching point of D.FF) to the rising edge of subcode area becomes the specified value (G).
(6) Set the VCR to the stop mode or eject mode.
(7) Play back the signal (A1) of the alignment tape (A3).
(8) Repeat steps (2) to (6) in the mode (B3).

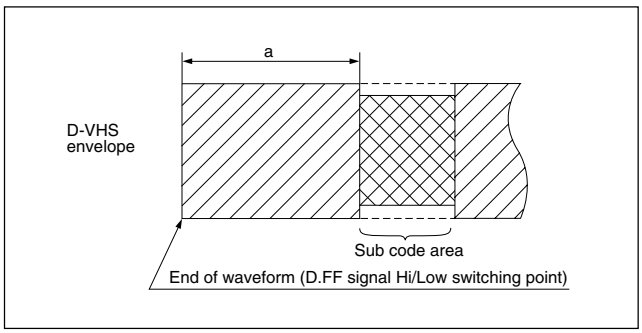


Fig. 3-2-2a D-VHS switching point

3.2.3 Slow tracking preset

Signal	(A1) (A2)	• Ext. input • Color (colour) bar signal [NTSC]
Mode	(B1) (B2)	• VHS SP • VHS EP
Measuring point	(D)	• TV-Monitor
Adjustment part	(F)	• Jig code “71“ or “72”
Specified value	(G)	• Minimum noise
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(2) Set the VCR to the manual tracking mode.
(3) Set the VCR to the FWD slow (+1/6x) mode.
(4) Transmit the code (F) from the Jig RCU to adjust so that the noise bar becomes the specified value (G) on the TV monitor in the slow mode.
(5) Set the VCR to the Stop mode.
(6) Confirm that the noise bar is (G) on the TV monitor in the slow mode.
(7) Repeat steps (3) to (6) in the REV slow (–1/6x) mode.
(8) Repeat steps (1) to (7) in the mode (B2).

Note:

- ***For FWD slow (+1/6x) playback, transmit the code “08” from the Jig RCU to enter the slow playback mode, and transmit the code “D0” for REV slow (–1/6x) mode.***

3.3 Video circuit

3.3.1 D/A level

Signal	(A1) (A2) (A3)	• Ext. S-input / Ext. input • Color (colour) bar signal [NTSC] • S-VHS tape
Mode	(B)	• S-VHS • EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• VIDEO OUT terminal (75Ω terminated)
Adjustment part	(F)	• VR1401 (D/A LEVEL ADJ) [3D Digital/4M board]
Specified value (Note)	(G)	• 1.00 ± 0.015 Vp-p (reference value)

(1) Insert the cassette tape (A3) to enter the mode (B).
(2) Observe the VIDEO OUT waveform at the measuring point (D).
(3) Check the Y level value when the External S-input (Y/C separated video signal).
(4) Switch the input signal to the External input (composite video signal), and adjust the adjustment part (F) so that the Y level becomes the same value observed in step (3).

Note:

- ***The specified value (G) is just a reference value to be obtained when the External S-Video (Y/C separated video) signal is input. In actual adjustment, set it to the value observed in step (3).***

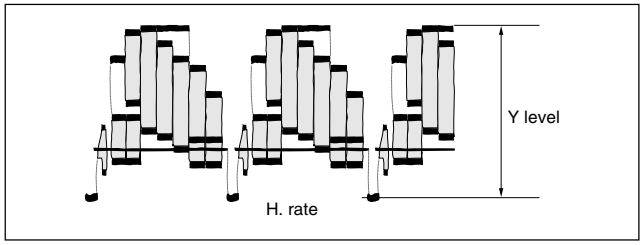


Fig. 3-3-1a D/A level

3.3.2 EE Y/PB Y (S-VHS/VHS) level

Signal	(A1) (A2) (A3)	• Ext. input • Color (colour) bar signal [NTSC] • S-VHS
Mode	(B1) (B2) (B3)	• EE • S-VHS SP • VHS SP
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP7101(Y OUT) [Main board]
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 11 • Jig code “21” twice • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• 2.05 ± 0.05 Vp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A3) to enter the mode (B1).
(2) Observe the Y OUT waveform at the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the Y level of the Y OUT waveform becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(7) Record the signal (A2) in the mode (B2), and play back the recorded signal.
(8) Set the VCR to the manual tracking mode.
(9) Repeat steps (2) to (6) in the mode (B2).
(10) Record the signal (A2) in the mode (B3), and play back the recorded signal.
(11) Set the VCR to the manual tracking mode.
(12) Repeat steps (2) to (6) in the mode (B3).

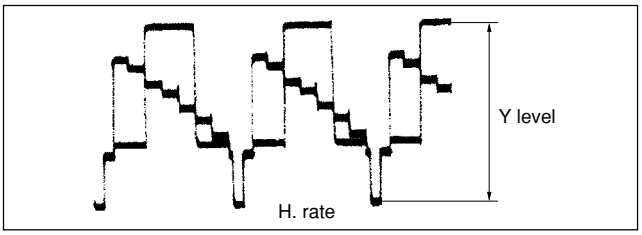


Fig. 3-3-2a EE/PB Y level

3.3.3 REC color (colour) level

Signal	(A1) (A2) (A3)	• Alignment tape(S-VHS, SP/EP, Color(colour) bar) [MH-1H] • Ext. input • Color (colour) bar signal [NTSC]
Mode	(B1) (B2)	• S-VHS SP • S-VHS EP
Equipment	(C)	• Oscilloscope
Measuring point	(D1) (D2)	• TP106 (PB-FM) [Main board] • PB color (colour) output of the LPF
External trigger	(E)	• TP111 (D.FF)
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 02 • Jig code “20” and “22” • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• SP: “B” x 125 ± 5% • EP: “B” x 125 ± 5%
Adjustment tool	(H1) (H2)	• Jig RCU [PTU94023B] • LPF [PTU93006] (See Fig. 3-3-3a.)

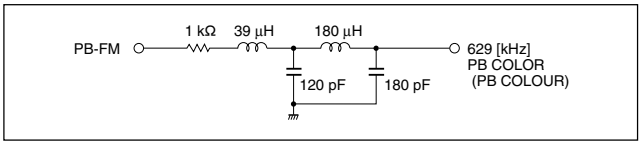


Fig. 3-3-3a LPF

(1) Connect the adjustment tool (H2) to the measuring point (D1).
(2) Apply the external trigger signal to D.FF (E) to observe the PB color (colour) waveform at the measuring point (D2).
(3) Play back the signal (A3) in the mode (B1) of the alignment tape (A1).
(4) Set the VCR to the manual tracking mode.
(5) Adjust tracking so that the PB color (colour) waveform becomes maximum. Make a note of the higher PB color (colour) level as “B” at this time.
(6) Record the signal (A3) in the mode (B1), and play back the recorded signal.

(7) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(8) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(9) Transmit the code (F4) from the Jig RCU to adjust so that the higher level channel becomes the specified value (G) of the note "B" level as shown in Fig. 3-3-3b. (Adjust before recording, then confirm it by playing back.)
(10) After adjustment, record the signal (A3) then playing it back again. At this time, confirm that there is no inverting phenomenon or noise appearing on the playback screen.
(11) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(12) Repeat steps (3) to (11) in the mode (B2).

Note:

- ***After adjusting, always perform the confirmation and re-adjustment of the item 3.4.1.***

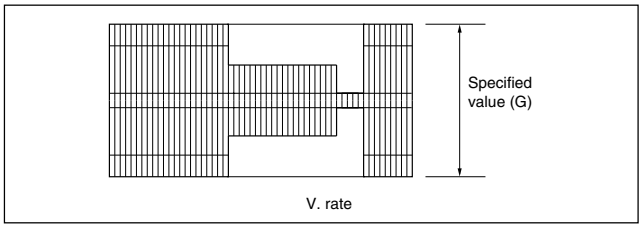


Fig. 3-3-3b REC color (colour) level

3.3.4 Video EQ (Frequency response)

Signal	(A1) (A2)	• Ext. S-input • Video sweep signal
Mode	(B1) (B2) (B3)	• S-VHS SP • S-VHS EP • Picture Control / Smart Picture REC : Normal / Natural PB : Edit / Distinct
Equipment	(C)	• Oscilloscope
Measuring point Frequency marker	(D1) (D2)	• Y OUT terminal (75Ω terminated) • 3.58 [MHz]
External trigger	(E)	• TP111 (D.FF)
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 03 • Jig code “20” and “23” • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• SP: 3.2 ± 0.2 div. (–2 ± 0.5 dB) • EP: 2.8 ± 0.2 div. (–3 ± 0.5 dB)
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Apply the external trigger signal to D.FF (E) to observe the Y OUT waveform at the measuring point (D1).
(2) Record the signal (A2) in the mode (B1), and play back the recorded signal.
(3) Set the VCR to the manual tracking mode.
(4) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(5) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(6) Set the slope of the oscilloscope to the channel having higher (D2) marker level of the Y OUT waveform [signal (A2)]. Then set the 100 kHz marker level to the “4” scale on the oscilloscope. In this condition, transmit the code (F4) from the Jig RCU to adjust so that the (D2) marker level reaches the specified value (G).
(7) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(8) Repeat steps (2) to (7) in the mode (B2).

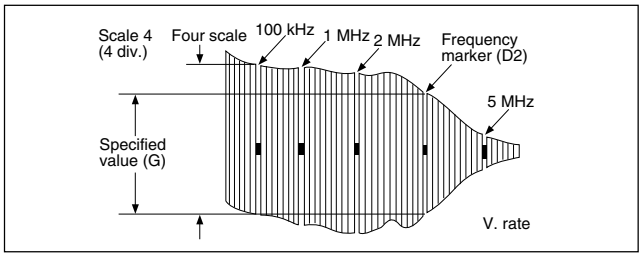


Fig. 3-3-4a Video EQ (Frequency Response)

3.3.5 Auto picture initial setting

Signal	(A1) (A2) (A3)	• Ext. input • Video: Optional • VHS tape
Mode	(B1) (B2)	• VHS • EE → Auto adjust (SP/EP REC → PB)
Adjustment part	(F)	• Jig code “58”
Specified value	(G)	• STOP mode
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A3) to set the mode (B1).
(2) Set the VCR to the Auto adjust mode by transmitting the code (F) from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed. When the VCR enters the eject mode, repeat steps (1) to (2) again.

3.4 Audio circuit

Notes:

- ***This adjustment should be done after the “REC color (colour) level adjustment” for the video circuit has been completed.***
- ***GND (Ground) should be taken from the Tuner shield case.***

3.4.1 Audio REC FM

Signal	(A1) (A2) (A3)	• Ext. input • Audio: No signal • Video: Color (colour) bar signal [NTSC]
Mode	(B)	• S-VHS EP • TBC: OFF
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• TP2253 (A. PB-FM) [Main board]
External trigger	(E)	• TP111 (D.FF)
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 30 • Jig code “23” and “20” • Jig code “18” or “19” (Channel +/-)
Specified value	(G1) (G2)	• 500 ± 100 mVp-p • More than 350 mVp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Apply the external trigger signal to D.FF (E) to observe the Audio PB FM waveform at the measuring point (D).
(2) Record the signal (A3) with no audio signal input in the mode (B), and play back the recorded signal.
(3) Set the VCR to the manual tracking mode.

(4) If the A.PB FM level is not within the specified value (G1), perform the adjustment in a following procedure.
(5) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(6) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(7) Transmit the code (F4) from the Jig RCU to adjust so that the A.PB FM level of the higher channel level becomes the specified value (G1). (Adjust before recording, then confirm it by playing back.)
(8) If the specified value (G1) is not obtained, transmit the code (F4) from the Jig RCU to adjust so that the waveform level of the lower channel level becomes the specified value (G2). (Adjust before recording, then confirm it by playing back.)
(9) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

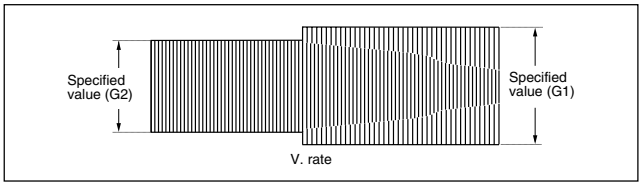


Fig. 3-4-1a Audio REC FM

3.5 Demodulator circuit

Notes:

- ***Unless otherwise specified in this demod circuit adjustments, all measuring points and adjustment parts are located on the Main board.***
- ***Unless otherwise specified,set an audio multiplex TV signal generator as follows;***
  RF signal : 70 dBµ / 75Ω, color bar 87.5% modulation.

3.5.1 Input level

Signal	(A)	• RF signal (Audio: mono 300 Hz)
Mode	(B)	• Tuner • EE
Equipment	(C)	• Audio level meter
Measuring point	(D)	• IC6501 pin 26
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 20 • Jig code “22” and “20” • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• 500 ± 10 mVrms
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Set an audio signal mode of the RF signal generator to mono 300 Hz.
(2) Connect the equipment (C) to the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the level of the measuring point (D) becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

3.5.2 Stereo VCO

Signal	(A)	• No signal
Mode	(B)	• Tuner • EE
Equipment	(C)	• Frequency counter
Measuring point	(D1)	• IC6501 pin 26
Short point	(D2)	• C6505(–) terminal
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 21 • Jig code “22” and “21” • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• 15.73 ± 0.1 kHz
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Connect the short wire between the short point (D2) and the GND (Ground).
(2) Connect the equipment (C) to the measuring point (D1).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the frequency of the measuring point (D1) becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(7) Disconnect the short wire between the short point (D2) and the GND (Ground).

3.5.3 Stereo filter

Signal	(A)	• RF signal (Audio: No signal)
Mode	(B)	• Tuner • EE
Equipment	(C)	• Oscilloscope
Measuring point	(D)	• IC6501 pin 26
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 22 • Jig code “22” twice • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• Minimum level
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Set an audio signal mode of the RF signal generator to no signal.
(2) Connect the equipment (C) to the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the level of the measuring point (D) becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

3.5.4 Separation - 1

Signal	(A)	• RF signal (Audio: L-ch 300 Hz 14% modulated)
Mode	(B)	• Tuner • EE
Equipment	(C)	• Audio level meter
Measuring point	(D)	• IC6501 pin 26
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 23 • Jig code “22” and “23” • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• Minimum level
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Set an audio signal mode of the RF signal generator to alternate L-ch 300 Hz 14% modulated.
(2) Connect the equipment (C) to the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the level of the measuring point (D) becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

3.5.5 Separation - 2

Signal	(A)	• RF signal (Audio: L-ch 5 kHz 14% modulated)
Mode	(B)	• Tuner • EE
Equipment	(C)	• Audio level meter
Measuring point	(D)	• IC6501 pin 26
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 24 • Jig code “22” and “24” • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• Minimum level
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Set an audio signal mode of the RF signal generator to alternate L-ch 5 kHz 14% modulated.
(2) Connect the equipment (C) to the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the level of the measuring point(D) becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)

3.5.6 SAP VCO

Signal	(A)	• No. signal
Mode	(B)	• Tuner • EE
Equipment	(C)	• Frequency counter
Measuring point	(D1)	• IC6501 pin 26
Short point	(D2)	• C6505 (–) terminal
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” • A : 25 • Jig code “22” and “25” • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• 78.67 ± 0.5 kHz
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Connect the short wire between the short point (D2) and the GND (Ground).
(2) Connect the equipment (C) to the measuring point (D1).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the frequency of the measuring point (D1) becomes the specified value (G).
(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(7) Disconnect the short wire between the short point (D2) and the GND (Ground).

3.6 Digital circuit

3.6.1 D-VHS REC level

Signal	(A1) (A2) (A3)	• Ext. input • Optional • DF-300
Mode	(B1) (B2)	• D-VHS STD REC • D-VHS HS REC
Equipment	(C)	• Oscilloscope
Measuring point	(D)	(STD) • TP601 (REC LEVEL1) (HS) • TP602 (REC LEVEL2)
External trigger	(E)	(STD) • TP111 (VIDEO/STD/HS1 FF) (HS) • TP112 (A/HS2 FF)
EVR mode EVR address	(F1) (F2) (F3) (F4)	• Jig code “57” (STD) • A:08 (HS) • A:09 (STD) • Jig code “20” and “28” (HS) • Jig code “20” and “29” • Jig code “18” or “19” (Channel +/-)
Specified value	(G)	• 100 (105-110) mVp-p
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A3) to enter the mode (B1).
(2) Apply the external trigger signal to D.FF (E) to observe the waveform appeared at the measuring point (D).
(3) Set the VCR to the EVR mode by transmitting the code (F1) from the Jig RCU.
(4) Set the EVR address to (F2) by transmitting the code (F3) from the Jig RCU.
(5) Transmit the code (F4) from the Jig RCU to adjust so that the waveform signal level “a” becomes the specified value (G).

(6) Release the EVR mode of the VCR by transmitting the code (F1) from the Jig RCU again. (When the EVR mode is released, the adjusted data is memorized.)
(7) Repeat steps (2) to (6) in the mode (B2).

Notes:

- ***GND (Ground) should be taken from the D-PRE/REC board shield case.***
- ***The signal level adjustment should be performed by setting the center (centre) of the darkened section on the CRT bright line.***
- ***After adjusting, always perform the confirmation and re-adjustment of the item 3.6.2.***

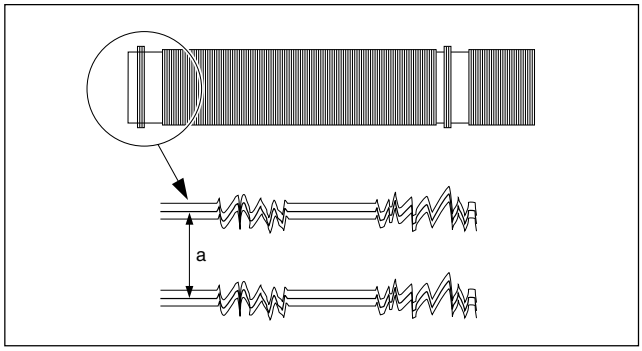


Fig. 3-6-1a D-VHS REC level

3.6.2 PLL f0

Notes:

- ***This adjustment should be done after the "D-VHS REC level adjustment" for the Digital circuit has been completed.***
- ***Do not connect the probe or any other jig to the TP or shield case of the D-PRE/REC board during adjustment.***
- ***If auto adjustment is not completed by the above procedure, re-adjust the adjustment item 3.6.1 again.***

Signal	(A1) (A2) (A3)	• Ext. input • Optional • DF-300
Mode	(B1) (B2)	• D-VHS STD • D-VHS HS
Adjustment point	(F1) (F2)	(STD) • Jig code "96" (HS) • Jig code "91" • Jig code "9B"
Specified value	(G)	• STOP mode
Adjustment tool	(H)	• Jig RCU [PTU94023B]

(1) Insert the cassette tape (A3) to enter the mode (B1).
(2) Set the VCR to the Auto adjust mode by transmitting the code (F1) from the Jig RCU. When the VCR enters the stop mode, the adjustment is completed. When the VCR enters the eject mode, insert the cassette tape again.
(3) Release the Auto adjust mode of the VCR by transmitting the code (F2)from the Jig RCU.
(4) Repeat steps (2) to (3) in the mode (B2).

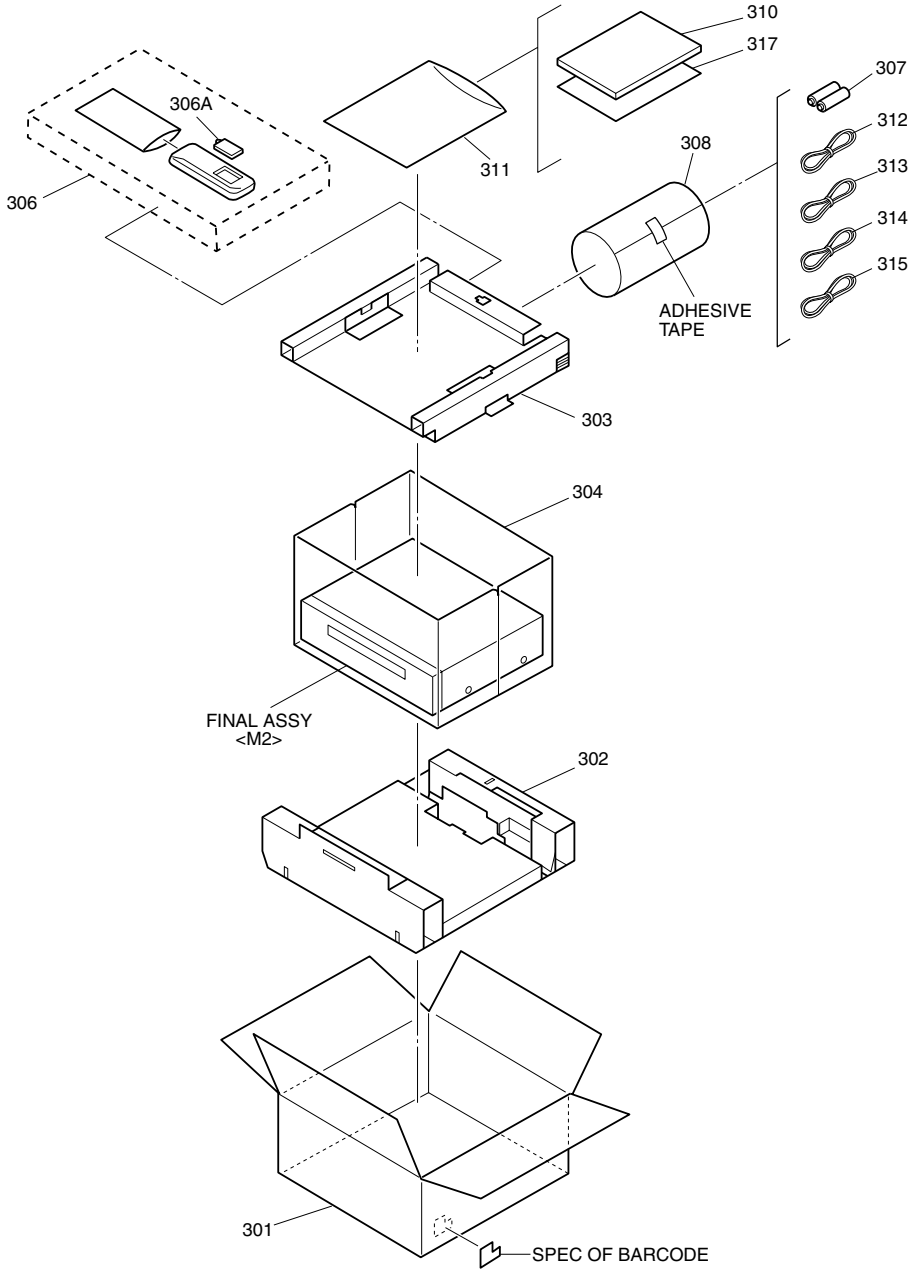
SECTION 5
PARTS LIST

SAFETY PRECAUTION

Parts identified by the ⚠ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

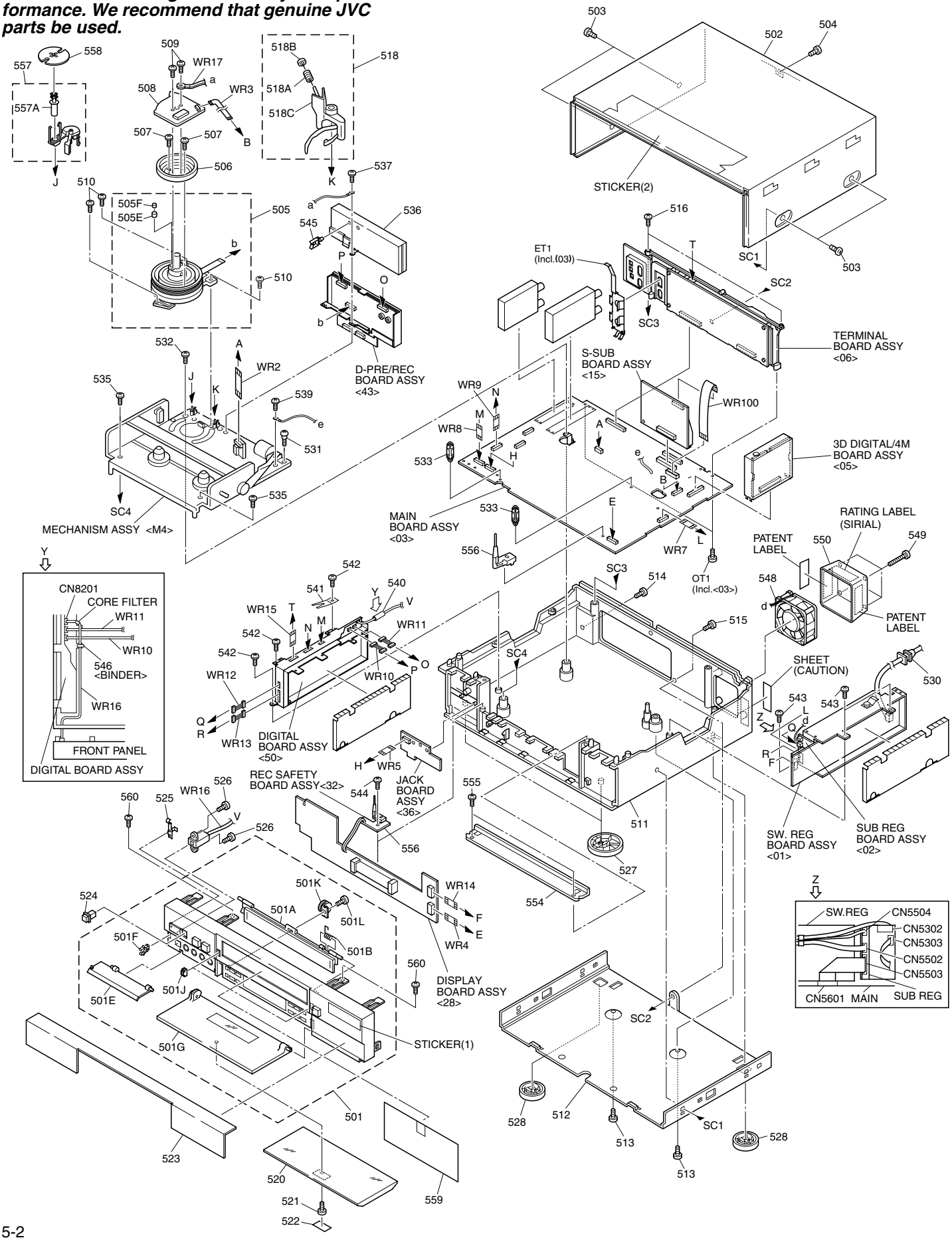
PACKING AND ACCESSORY ASSEMBLY <M1>

		301	LP30930-001A	PACKING CASE
		302	LP30933-001A	CUSHION(BOTTOM)
		303	LP30934-001A	CUSHION(TOP)
		304	PQM30021-105	POLY BAG
		306	LP20465-013A	REMOTE CONTROLLER
		306A	LP40254-009A	COVER(BATTERY)
		307	–	BATTERY,X2(“AA”TYPE)
		308	QPC02202230P	POLY BAG
	⚠	310	LPT0542-001A	INST BOOK(EN)
	⚠		LPT0542-002A	INST BOOK(FR)
		311	QPC02503530P	POLY BAG
		312	PEAC0294-04	RF CABLE
		313	QAM0004-002	S CABLE
		314	QAM0207-001	AUDIO CABLE
		315	QAL0095-004	LED CABLE ASSY (Controller)
		317	BT-51028-1	REGIST.CARD

5.2 FINAL ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.

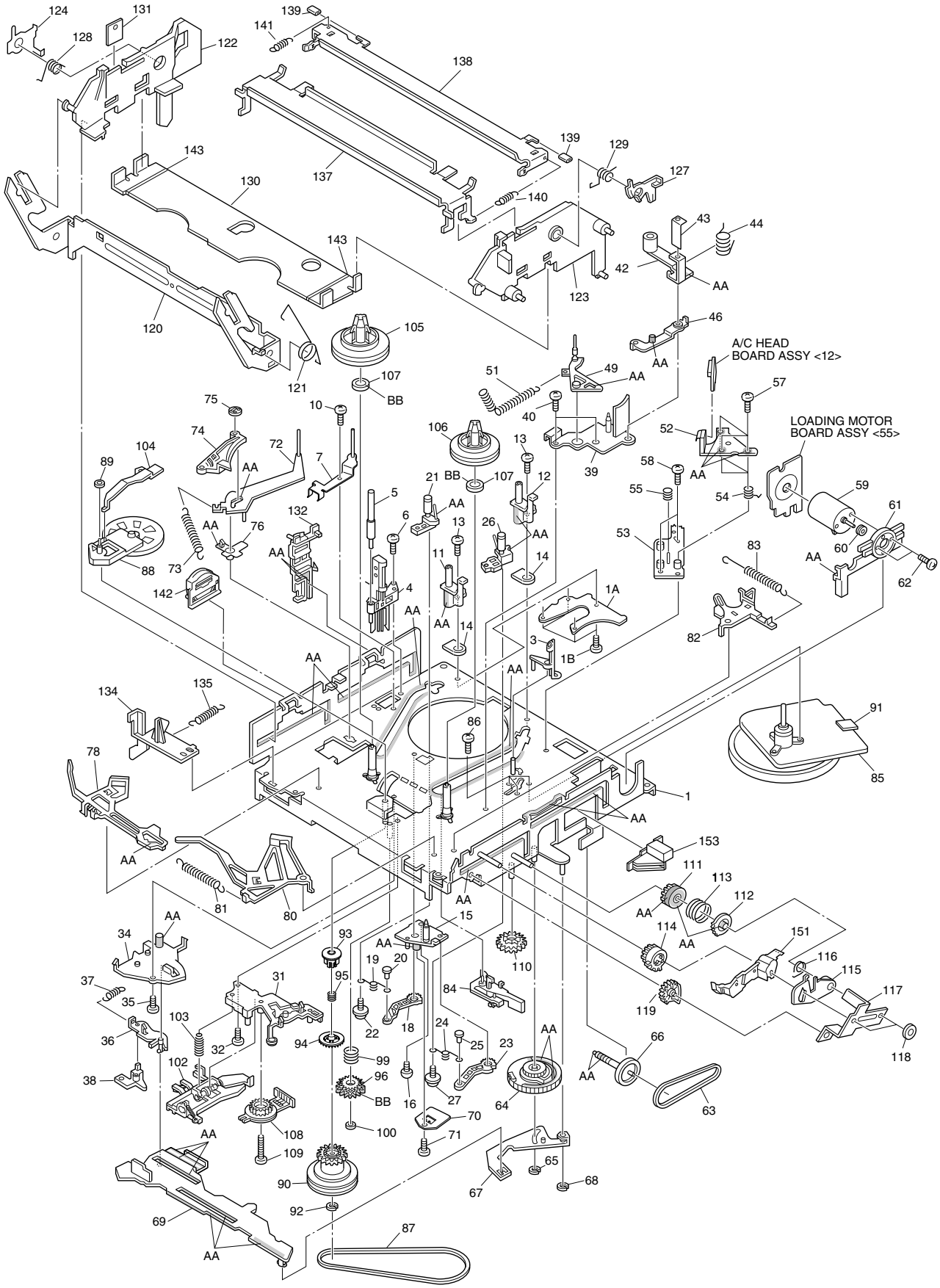


#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
**********				

FINAL ASSEMBLY <M2>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
	⚠	501	LP10353-003C	FRONT PANEL ASSY
		501A	LP20968-006A	CASSETTE DOOR
		501B	PQ46448	TORSION SPRING
		501E	LP20970-003A	DOOR(JACK)
		501F	PU60109	CATCHER
		501G	LP20969-001A	DOOR
		501J	QZW0063-001	MAGNET LATCH,X2
		501K	QZW0055-003	DAMPER
		501L	QYTDSF3010Z	SCREW
	⚠	502	PQ11922-52-13	TOP COVER
		503	QYTDSF3010R	SCREW,X4 TOP COVER(SIDE)
		504	QYTDSF3010M	SCREW,TOP COVER(REAR)
		505	LP21000-001A	DRUM SUB ASSY
		505E	LP40323-001A	CONTACT
		505F	LP30004-014A	COMPRESSION SPRING
		506	PDZ0179-1-4	ROTOR ASSY
		507	QYSPSP3006Z	SCREW,X2
	⚠	508	QAR0119-001	STATOR ASSY
		509	QYSPSPH2606Z	SCREW,X2
		510	QYTDST2610Z	SCREW,X3 DRUM
	⚠	511	LP10140-008B	BOTTOM CHASSIS
	⚠	512	PQ11921-1-4	BOTTOM COVER
		513	QYTDSF3010Z	SCREW,X2
		514	QYTDSF3010M	SCREW,DIGITAL
		515	QYTDSF3010M	SCREW,TERMINAL
		516	QYTPSFG3010Z	SCREW,X2 TERMINAL
		518	LP40369-001D	CLEANER ASSY
		518A	PQ46418-1-2	CLEANER ROLLER
		518B	PQ46419-1-2	CLEANER
		518C	LP30407-001D	CLEANER ARM
		520	LP30806-001A	WINDOW(DOOR)
		521	QYSLSF2040D	SCREW
		522	LP40588-002A	MARK(D-VHS)
		523	LP20993-002D	COVER ASSY(FRONT)
		524	LP40692-001A	WINDOW(IR)
		525	LP40695-001A	EARTH PLATE(1394)
		526	QYTDSF2608Z	SCREW,X2 WR16
		527	PQ46617C	FOOT ASSY,X2
		528	PQ35504	FOOT(2),X2
	⚠	530	QMPD190-170-K	POWER CORD
		531	LP40700-001A	SPECIAL SCREW,MECHA
		532	QYTDSF4012Z	SCREW,MECHA
		533	LP40226-001A	PC SUPPORT,X2
		535	QYTDSF3010Z	SCREW,X2 MECHA
		536	LP20941-001A	SHIELD CASE(PRE)
		537	QYTDST2606Z	SCREW,PRE/REC
		539	QYTDST2606Z	SCREW,MAIN
		540	QQR0917-001	CORE FILTER
		541	PQ41556	EARTH PLATE
		542	QYTDSF3010Z	SCREW,X3 DIGITAL
		543	QYTDSF3010Z	SCREW,X2 REG
		544	QYTDSF3010Z	SCREW,REC SAFETY
		545	PU59311	WIRE CLAMP
		546	PU43192-4	BINDER
		548	QAR0174-001	FAN MOTOR
		549	LP40587-001A	SPECIAL SCREW,X4
		550	LP20838-002B	COVER(FAN)
		554	LP30312-001B	BRACKET(CHASSIS)
		555	QYTDSF3010Z	SCREW,X2
		556	LP40407-001A	KNOB ASSY,X2
		557	LP40370-001E	ROLLER ARM ASSY
		557A	PDM4311A-1	ROLLER ASSY
		558	PQ44230	INERTIA PLATE
		559	QPH00702410	POLY SHEET,DOOR
		560	QYTDSF3010Z	SCREW,X2 FRONT PANEL
		WR2	QUQ112-0722CG	FFC WIRE,A/C HEAD CN2001
		WR3	QUQ212-0524CG	FFC WIRE,DRUM CN3001
		WR4	QUQ112-1012CG	FFC WIRE,DISPLAY CN3008
		WR5	QUQ112-1115CG	FFC WIRE,JACK CN901
		WR7	QUQ212-2111CG	FFC WIRE,MAIN CN5503
		WR8	QUQ210-1622CC	FFC WIRE,MAIN CN8002
		WR9	QUQ112-1212CG	FFC WIRE,MAIN CN9801
		WR10	WJN0051-001A	E-SH C WIRE C-C,DIGITAL CN601
		WR11	WJN0051-002A	E-SH C WIRE C-C,DIGITAL CN603
		WR12	QJJ001-046634	SIN CR C-C WIRE,DIGITAL CN5502
		WR13	QJJ001-127231	SIN CR C-C WIRE,DIGITAL CN5302
		WR14	QUQ212-0510CG	FFC WIRE,DISPLAY CN5303
		WR15	QUQ210-0932CC	FFC WIRE,DIGITAL CN7104
		WR16	WJN0049-001A	E-SH C WIRE C-C,FRONT
		WR17	QUB220-13RLRL	GND WIRE,PRE/REC

5.3 MECHANISM ASSEMBLY <M4>



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in **AA** and **BB** indicate lubrication and greasing areas.

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

MECHANISM ASSEMBLY <M4>

		1	LP20884-002F	MAIN DECK ASSY
		1A	LP40275-002B	PLATE(S)
		1B	QYTDST2606Z	SCREW,X4
		3	LP30492-002B	GIDE POLE GUARD
		4	NAH0001-001	FULL ERASE HEAD
		5	LP40098-001B	GUIDE POLE(SUPPLY)
		6	QYTDST2608Z	SCREW
		7	LP40637-002A	TENSION STUD BASE ASSY
		10	QYTDST2606Z	SCREW
		11	LP30409-002C	UV CATCHER 2(SUPPLY)
		12	LP30409-002C	UV CATCHER 2(TAKE UP)
		13	QYTPST2606Z	SCREW,X2
		14	PQ40919-10	SPACER,X2
		15	LP30223-003C	LOADING ARM GEAR SHAFT
		16	QYTDST2606Z	SCREW
		18	LP30224-001B	LOADING ARM GEAR(SUPPLY)
		19	LP40099-001A	TORSION ARM
		20	LP40100-001A	PIN
		21	LP40101-007A	POLE BASE ASSY(SUPPLY)
		22	QYSPSTG2606Z	SCREW
		23	LP40103-002B	LOADING ARM GEAR(TAKE UP)
		24	LP40099-001A	TORSION ARM
		25	LP40100-001A	PIN
		26	LP40104-008A	POLE BASE ASSY(TAKE UP)
		27	QYSPSTG2606Z	SCREW
		31	LP20233-004B	ROTARY ENCODER GUIDE
		32	QYTPST2606Z	SCREW
		34	LP30226-004E	CONTROL PLATE GUIDE
		35	QYTPST2605Z	SCREW
		36	LP30249-003B	TAKE UP LEVER
		37	LP30003-006A	TENSION SPRING
		38	LP40119-002A	TAKE UP HEAD
		39	LP20234-004B	LID GUIDE
		40	QYTDST2606Z	SCREW,X2
		42	LP40105-003A	PINCH ROLLER ARM ASSY
		43	LP40753-001A	PINCH ROLLER SHEET 3
		44	LP40148-002A	TORSION SPRING
		46	LP40149-001C	PRESS LEVER ASSY
		49	LP40106-007A	GUIDE ARM ASSY
		51	LP40134-002A	TENSION SPRING
		52	QAH0010-005	AC HEAD
		53	LP30228-001C	HEAD BASE
		54	LP30004-013A	COMPRESSION SPRING,X3
		55	LP40236-001A	COMPRESSION SPRING
		57	LP40213-002B	SPECIAL SCREW,X3
		58	QYTDST2608Z	SCREW,X2
		59	QAR0023-001	LOADING MOTOR
		60	PQ43546-1-2	MOTOR PULLEY
		61	LP30230-003D	MOTOR GUIDE
		62	QYTPSP3003Z	SCREW,X2
		63	LP30005-003A	BELT,LOADING MOTOR
		64	LP20791-002D	CONTROL CAM
		65	PQM30017-24	SLIT WASHER
		66	LP40120-001A	WORM GEAR
		67	LP40107-002A	LINK LEVER ASSY
		68	PQM30017-24	SLIT WASHER
		69	LP10284-002E	CONTROL PLATE
		70	LP40379-001B	CONTROL BRACKET(1)
		71	QYTDSF2608M	SCREW
		72	LP40108-002A	TENSION ARM ASSY
		73	LP30003-010A	TENSION SPRING
		74	LP40109-003D	TENSION BRAKE ASSY
		75	PQ46302-1-3	ADJUST PIN
		76	LP30232-002A	TENSION ARM BEARING
		78	LP40532-009B	MAIN BRAKE ASSY (SUPPLY)
		80	LP40111-014C	MAIN BRAKE ASSY (TAKE UP)
		81	LP30003-029A	TENSION SPRING
		82	LP40112-001F	SUB BRAKE ASSY(TAKE UP)
		83	LP40357-001B	TENSION SPRING
		84	LP40461-001A	CAPSTAN BRAKE ASSY
		85	QAR0132-001	CAPSTAN MOTOR
		86	QYTDSF2606M	SCREW,X3
		87	LP30005-008A	BELT,CAPSTAN MOTOR
		88	LP40114-011B	IDLER ARM ASSY
		89	LP30016-001A	SLIT WASHER
		90	LP40593-003B	CLUTCH UNIT 3
		91	LP30002-097A	SPACER,CAPSTAN MOTOR
		92	PQM30017-47	SLIT WASHER
		93	LP30696-002A	CLUTCH GEAR 4
		94	LP30697-003A	COUPLING GEAR
		95	LP40554-002A	COMPRESSION SPRING
		96	LP40442-001A	DIRECT GEAR
		99	LP40483-002A	COMPRESSION SPRING
		100	LP30016-001A	SLIT WASHER
		102	LP40484-003B	CHANGE LEVER ASSY
		103	LP40512-002B	COMPRESSION SPRING
		104	LP30236-002C	IDLER LEVER
		105	LP20237-003B	REEL DISK (SUPPLY)
		106	LP20238-003B	REEL DISK (TAKE UP)
		107	LP30017-015A	SPACER,X2
		108	QSW0554-003	ROTARY ENCODER
		109	LP40746-001A	SPECIAL SCREW
		110	LP30237-002B	CASSETTE GEAR
		111	LP30239-002G	LIMIT GEAR(1)
		112	LP30240-002G	LIMIT GEAR(2)
		113	LP40136-001E	TORSION SPRING
		114	LP30242-002B	RELAY GEAR
		115	LP30339-002E	OPENER GUIDE
		116	LP40545-001A	TORSION SPRING
		117	LP40214-001B	C.H.BRACKET
		118	PQM30017-47	SLIT WASHER,X2
		119	LP30243-002A	DRIVE GEAR
		120	LP20240-001G	DRIVE ARM
		121	LP40137-001A	TORSION SPRING
		122	LP10081-002L	SIDE HOLDER(L)
		123	LP10082-002U	SIDE HOLDER(R)
		124	LP30255-006B	LOCK LEVER(L)
		127	LP30256-001H	LOCK LEVER(R)
		128	LP40168-001A	TORSION SPRING(L)
		129	LP40218-001B	TORSION SPRING(R)
		130	LP30257-001G	CASSETTE HOLDER
		131	PQ40919-30	SPACER,EARTH PLATE
		132	LP30244-002G	GUIDE RAIL
		134	LP30245-002F	REC SAFETY LEVER
		135	LP30003-004A	TENSION SPRING
		137	LP20578-001C	TOP GUIDE
		138	LP30500-001C	HOLD PLATE
		139	LP40450-003A	PAD,X2
		140	LP30003-025B	TENSION SPRING
		141	LP30003-024A	TENSION SPRING
		142	LP40481-003A	ROLLER CAM ASSY
		143	LP30019-014A	PAD,X2
		151	LP20324-003B	DOOR OPENER
		153	LP30493-001B	START SENSOR CAP

5.4 ELECTRICAL PARTS LIST

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
**********				

SW.REG BOARD ASSEMBLY <01>

		PW1	LPA10118-02B1	SW.REG BOARD ASSY
		IC5101	STR-F6555	IC
		IC5301	L5431	IC
			or MM1431AT	IC
			or UTCTL431	IC
		IC5302	PQ5EV3	IC
		IC5303	PQ5EV3	IC
		IC5304	PQ5EV3	IC
		IC5305	PQ5EV3	IC
		IC5306	PQ15RW11	IC
		IC5307	PQ15RW21	IC
		Q5301	2SD2144S/UV/-T	TRANSISTOR
		Q5302	DTA114EU	TRANSISTOR
			or PDTA114EU	TRANSISTOR
			or RN2302	TRANSISTOR
			or UN5111	TRANSISTOR
		Q5303	DTC114EU	TRANSISTOR
			or PDTC114EU	TRANSISTOR
			or UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
		Q5304	2SD1819A/RS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/RS/-X	TRANSISTOR
		Q5305	DTA114EU	TRANSISTOR
			or PDTA114EU	TRANSISTOR
			or UN5111	TRANSISTOR
			or RN2302	TRANSISTOR
		D5001	D3SBA60	BRIDGE DIODE
		D5101	SARS01	DIODE
		D5102	AU01Z	FR DIODE
			or ERA18-02-T2	FR DIODE
			or PG104RS	FR DIODE
			or 10ELS2	FR DIODE
			or 1SR153-400-T2	FR DIODE
		D5103	QUY153-050Y	IM BUS WIRE
		D5201	AK04	DIODE
			or 1S4	SB DIODE
			or 11EQS04	SB DIODE
		D5202	SB640FCT	SB DIODE
			or FSQ05A04B	SB DIODE
			or YG801C04	SB DIODE
			or SF5SC4	SB DIODE
		D5204	SB640FCT	SB DIODE
			or FSQ05A04B	SB DIODE
			or SF5SC4	SB DIODE
			or YG801C04	SB DIODE
		D5205	FML-12S	FR DIODE
			or ER602FCT	FR DIODE
			or YG901C2	FR DIODE
			or FCF06A20	FR DIODE
			or SF5LC20U	FR DIODE
		D5207	10ELS2	FR DIODE
			or 1SR153-400-T2	FR DIODE
			or ERA18-02-T2	FR DIODE
			or PG104RS	FR DIODE
		D5208	AU01Z	FR DIODE
			or ERA18-02-T2	FR DIODE
			or PG104RS	FR DIODE
			or 1SR153-400-T2	FR DIODE
			or 10ELS2	FR DIODE
		D5209	AU01Z	FR DIODE
			or PG104RS	FR DIODE
			or 1SR153-400-T2	FR DIODE
			or 10ELS2	FR DIODE
			or ERA18-02-T2	FR DIODE
		D5301	MTZJ15A	ZENER DIODE
			or RD15ES/B1/-T2	ZENER DIODE
		D5302	MTZJ3.3B	ZENER DIODE
			or RD3.3ES/B2/-T2	ZENER DIODE
		D5303	1SS133	DIODE
			or 1SS270A	DIODE
		D5304	1SS355	DIODE
		D5310	1SS133	DIODE
			or 1SS270A	DIODE
		D5311	MTZJ27C	ZENER DIODE
			or RD27ES/B3/-T2	ZENER DIODE
		D5312	FMM-24U	DIODE
		D5314	MTZJ7.5A	ZENER DIODE
			or RD7.5ES/B1/-T2	ZENER DIODE
		D5315	FMM-24U	DIODE
	⚠	R5001	QRZ9046-475Z	RESISTOR 4.7MΩ,1/2W
		R5101	QRG02GJ-683	OMF RESISTOR 68kΩ,2W
		R5102	QRE141J-560Y	RESISTOR 56Ω,1/4W
		R5103	NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
		R5104	QRE141J-681Y	RESISTOR 680Ω,1/4W
		R5105	QRT01DJ-R27X	MF RESISTOR 0.27Ω,1W
		R5106	QRE141J-684Y	RESISTOR 680kΩ,1/4W
	⚠	R5107	QRZ9052-470Y	FUSI RESISTOR 47Ω,1/4W
		R5301	QRE141J-1R8Y	RESISTOR 1.8Ω,1/4W
		R5304	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
		R5305	NRSA02J-222X	MG RESISTOR 2.2kΩ,1/10W
		R5306	NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
		R5307	NRVA02D-133X	CMF RESISTOR 13kΩ,1/10W
		R5308	NRVA02D-682X	CMF RESISTOR 6.8kΩ,1/10W
		R5309	NRVA02D-472X	CMF RESISTOR 4.7kΩ,1/10W
		R5310	NRVA02D-682X	CMF RESISTOR 6.8kΩ,1/10W
		R5311	NRVA02D-223X	CMF RESISTOR 22kΩ,1/10W
		R5312	NRVA02D-123X	CMF RESISTOR 12kΩ,1/10W
		R5313	NRVA02D-153X	CMF RESISTOR 15kΩ,1/10W
		R5314	NRVA02D-113X	CMF RESISTOR 11kΩ,1/10W
	⚠	R5315	QRZ9005-101X	FUSI RESISTOR 100Ω,1/4W
		R5316	QRL02DJ-821X	OMF RESISTOR 820Ω,2W
	⚠	R5317	QRZ9006-4R7X	FUSI RESISTOR 4.7Ω,1/4W
		R5318	NRSA02J-221X	MG RESISTOR 220Ω,1/10W
		R5319	NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
		R5320	NRSA02J-152X	MG RESISTOR 1.5kΩ,1/10W
		R5321	NRVA02D-562X	CMF RESISTOR 5.6kΩ,1/10W
		R5322	NRVA02D-392X	CMF RESISTOR 3.9kΩ,1/10W
		R5323	NRSA02J-122X	MG RESISTOR 1.2kΩ,1/10W
		R5324	NRSA02J-681X	MG RESISTOR 680Ω,1/10W
		R5325	NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
		R5326	NRSA02J-391X	MG RESISTOR 390Ω,1/10W
		R5327	NRVA02D-563X	CMF RESISTOR 56kΩ,1/10W
		R5328	NRVA02D-153X	CMF RESISTOR 15kΩ,1/10W
		R5329	NRVA02D-163X	CMF RESISTOR 16kΩ,1/10W
		R5331	NRVA02D-682X	CMF RESISTOR 6.8kΩ,1/10W
		R5332	NRVA02D-202X	CMF RESISTOR 2kΩ,1/10W
		R5333	NRSA02J-103X	MG RESISTOR 10kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		B5003	QUY160-100Y	IM BUS WIRE	
		B5004	QUY160-100Y	IM BUS WIRE	
		B5302	QUY160-100Y	IM BUS WIRE	
		B5305	QUY153-050Y	IM BUS WIRE	
		B5307	QUY153-050Y	IM BUS WIRE	
	⚠	C5001	QFZ9073-683	F CAPACITOR	0.068µF,250V
	⚠	C5002	QFZ9051-223	F CAPACITOR	0.022µF,250V
		C5003	QEZ0516-337	E CAPACITOR	330µF,200V
	⚠	C5004	QCZ9094-472	CAPACITOR	0.0047µF,125V
	⚠	C5005	QCZ9071-101	CAPACITOR	100pF,250V
	⚠	C5006	QCZ9071-101	CAPACITOR	100pF,250V
		C5102	QEMT1VM-276	E CAPACITOR	27µF,35V
		C5103	QCZ0302-330Z	CAPACITOR	33pF,1kV
		C5104	QFLC1HJ-471Z	F CAPACITOR	470pF,50V
		C5106	QCZ0212-472	CAPACITOR	0.0047µF,1kV
		C5107	QUY153-050Y	IM BUS WIRE	
		C5201	QEMU0JM-227	E CAPACITOR	220µF,6.3V
		C5202	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C5203	QECP0JM-478	E CAPACITOR	4700µF,6.3V
		C5205	QECP1AM-338	E CAPACITOR	3300µF,10V
		C5206	QECP1CM-687	E CAPACITOR	680µF,16V
		C5207	QECP1VM-157	E CAPACITOR	150µF,35V
		C5208	QETN2AM-475	E CAPACITOR	4.7µF,100V
		C5209	QEMU1HM-186	E CAPACITOR	18µF,50V
		C5301	QETN1AM-477	E CAPACITOR	470µF,10V
		C5303	QETN1AM-337	E CAPACITOR	330µF,10V
		C5304	QETN1CM-337	E CAPACITOR	330µF,16V
		C5306	QFVF1HJ-154Z	F CAPACITOR	0.15µF,50V
		C5307	QFLC1HJ-333Z	F CAPACITOR	0.033µF,50V
		C5308	QETN1EM-476	E CAPACITOR	47µF,25V
		C5309	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C5310	QETN1AM-107	E CAPACITOR	100µF,10V
		C5311	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C5312	QETN1AM-107	E CAPACITOR	100µF,10V
		C5313	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C5314	QETN1AM-107	E CAPACITOR	100µF,10V
		C5315	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C5316	QETN1AM-107	E CAPACITOR	100µF,10V
		C5317	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C5318	QETN1AM-107	E CAPACITOR	100µF,10V
		C5319	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C5320	QETN1AM-107	E CAPACITOR	100µF,10V
		L5201	PELN0966-330L	COIL	33µH
		L5203	PELN0966-330L	COIL	33µH
		L5204	PELN1184	COIL	33µH
		K5101	QQR0678-001Z	FERRITE BEAD	
	⚠	PC5101	PS2501-1	PH COUPLER	
	⚠	T5001	QQS0106-001	SW TRANSFORMER	
		CL1	PU59311-2	WIRE CLAMP	
		ET1	PQ44695-1-1	EARTH PLATE,X2	
		HS1	PEME0889-01-01	HEAT SINK,IC5101	
		HS2	QZW0059-001	HEAT SINK,D5202,4,5	
		HS4	QZW0047-002	HEAT SINK,IC5302	
		HS5	QZW0047-002	HEAT SINK,IC5305	
	⚠	OT1	LP40768-001A	SPACER,SHIELD CASE	
		OT2	QYTDST3006Z	SCREW,X7 SHIELD CASE	
		OT4	QYTDST3006Z	SCREW,X2 EARTH PLATE	
		OT5	QYTDST3010Z	SCREW,IC5101	
		OT6	QYTDST3008Z	SCREW,X3 D5202,4,5	
		OT7	QYTDST3008Z	SCREW,X3 IC5302,3,5	
		SD1	LP20942-001A	SHIELD CASE(REG)	
		SD2	LP20943-001A	SHIELD COVER(REG)	
		FC5001	QNG0006-001Z	FUSE CLIP,F5001	
		FC5002	QNG0006-001Z	FUSE CLIP,F5001	
	⚠	LF5002	QQR0908-001	LINE FILTER	
	⚠	VA5001	QAF0023-431Z	VARISTOR	
	⚠	CN5001	QGA7901C3-02	CONNECTOR,(1-2)AC IN	
		CN5301	QGB2530K1-14	CONNECTOR,(1-14)SUB REG	
		CN5302	QGA2001F1-12	CONNECTOR,(1-12)DIGITAL	
		CN5303	QGF1207C1-05	FPC CONNECTOR,(1-5)DISPLAY	
	⚠	CP5301	ICP-N20	CIRCUIT PROTECTOR	
	⚠	F5001	QMF51N2-2R0J1	FUSE	T2.0A,AC250V

****

SUB REG BOARD ASSEMBLY <02>

	PW2	LPA10118-02B2	SUB REG BOARD ASSY
	Q5501	2SD2375/QP/	TRANSISTOR
	Q5502	DTA114EU	TRANSISTOR
		or PDTA114EU	TRANSISTOR
		or RN2302	TRANSISTOR
		or UN5111	TRANSISTOR
	Q5503	DTC114EU	TRANSISTOR
		or PDTC114EU	TRANSISTOR
		or UN5211	TRANSISTOR
		or RN1302	TRANSISTOR
	Q5504	2SD2375/QP/	TRANSISTOR
	Q5505	2SD1819A/RS/-X	TRANSISTOR
		or 2SC4081/RS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
	Q5506	2SB1068/KU/-T	TRANSISTOR
	Q5507	DTC114EU	TRANSISTOR
		or PDTC114EU	TRANSISTOR
		or UN5211	TRANSISTOR
		or RN1302	TRANSISTOR
	D5501	1SS133	DIODE
		or 1SS270A	DIODE
	D5502	RD5.1JS/B2/-T2	ZENER DIODE
		or MA4051N/M/-T2	ZENER DIODE
	D5503	11ES2	DIODE
		or ERA15-02-T2	DIODE
		or 1A3G	DIODE
	D5504	11ES2	DIODE
		or ERA15-02-T2	DIODE
		or 1A3G	DIODE
	D5505	11ES2	DIODE
		or ERA15-02-T2	DIODE
		or 1A3G	DIODE
	D5506	11ES2	DIODE
		or ERA15-02-T2	DIODE
		or 1A3G	DIODE
	D5507	11ES2	DIODE
		or ERA15-02-T2	DIODE
		or 1A3G	DIODE
	D5508	11ES2	IM BUS WIRE
		or ERA15-02-T2	DIODE
		or 1A3G	DIODE
	D5509	QUY160-100Y	DIODE

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		D5510	MTZJ12A	ZENER DIODE	
			or RD12ES/B1/-T2	ZENER DIODE	
		R5501	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5502	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R5503	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5504	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R5505	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5506	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R5507	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R5508	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5509	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5510	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R5511	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R5512	QRE123J-390X	RESISTOR	39Ω,1/2W
		R5513	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R5514	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		B5502	QUY160-100Y	IM BUS WIRE	
		C5501	QETN1CM-107	E CAPACITOR	100µF,16V
		C5503	QETN1CM-107	E CAPACITOR	100µF,16V
		C5504	NCB21HK-103X	CAPACITOR	0.01µF,50V
		L5501	QQL231J-R22Y	COIL	0.22µH
		CN5501	QGB2530J1-14	CONNECTOR,(1-14)SW.REG	
		CN5502	QGA2001F1-04	CONNECTOR,(1-4)DIGITAL	
		CN5503	QGF1207F1-21	FPC CONNECTOR,(1-21)MAIN	
		CN5504	QGA2001F1-02	CONNECTOR,(1-2)	

****

MAIN BOARD ASSEMBLY <03>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW1	LPA10135-03D	MAIN BOARD ASSY
		IC1	JCP8022-NSD-2	IC
		IC2601	BU4052BCF	IC
		IC2602	BA15218F-XE	IC
		IC2603	BU4052BCF	IC
		IC2604	BA15218F-XE	IC
		IC2605	BU4053BCF	IC
		IC2606	BA15218F-XE	IC
		IC3001	HD6432194SXD28F	IC(MCU)
		IC3002	S-80727AN-DQ-X	IC
			or R3111H271A	IC
			or S-80827ANUP-W	IC
		IC3003	AT24C08-10PC	IC
			or 24LC08B/P	IC
		IC3004	BA6956AN	IC
		IC3005	BU2090FS	IC
		IC3006	BU2090FS	IC
		IC3007	BU2090FS	IC
		IC6501	UPC1854AGT	IC
		Q1	2SC4081/S/-X	TRANSISTOR
		Q2	2SC4081/S/-X	TRANSISTOR
		Q3	2SC4081/S/-X	TRANSISTOR
		Q4	2SC4081/S/-X	TRANSISTOR
		Q5	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q7	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q8	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q9	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q12	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q17	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
		Q21	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q38	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q46	DTA114WU	TRANSISTOR
		Q47	DTA114WU	TRANSISTOR
		Q48	2SC4081/S/-X	TRANSISTOR
		Q49	2SC4081/S/-X	TRANSISTOR
		Q251	DTC144WU	TRANSISTOR
		Q252	2SA1576A/QR/-X	TRANSISTOR
		Q253	2SC4081/QRS/-X	TRANSISTOR
		Q1701	2SA1576A/QR/-X	TRANSISTOR
		Q1702	2SA1576A/QR/-X	TRANSISTOR
		Q1703	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q1704	2SA1576A/QR/-X	TRANSISTOR
		Q1705	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q1706	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2001	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2002	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2003	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
		Q2004	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2006	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2051	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2052	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q2053	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2054	2SA1576A/QR/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q2251	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
		Q2275	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2277	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q2278	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q2279	DTA114EU	TRANSISTOR
			or PDTA114EU	TRANSISTOR
			or RN2302	TRANSISTOR
			or UN5111	TRANSISTOR
		Q2601	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q2602	DTA114EU	TRANSISTOR
			or PDTA114EU	TRANSISTOR
			or UN5111	TRANSISTOR
			or RN2302	TRANSISTOR
		Q2603	DTC114TU	TRANSISTOR
			or PDTC114TU	TRANSISTOR
			or RN1311	TRANSISTOR
			or UN5215	TRANSISTOR
		Q2604	DTC114TU	TRANSISTOR
			or PDTC114TU	TRANSISTOR
			or UN5215	TRANSISTOR
			or RN1311	TRANSISTOR
		Q3001	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q3002	PTZ-NV16	PHOTO TRANSISTOR
			or PTZ-NV16A	PHOTO TRANSISTOR
		Q3003	PTZ-NV16	PHOTO TRANSISTOR
			or PTZ-NV16A	PHOTO TRANSISTOR
		Q3004	2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
		Q3005	2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q3006	2SB1256	TRANSISTOR
		Q3007	2SB1256	TRANSISTOR
		Q3008	UN5111	TRANSISTOR
			or RN2302	TRANSISTOR
			or DTA114EU	TRANSISTOR
			or PDTA114EU	TRANSISTOR
		Q3009	DTC114TU	TRANSISTOR
			or PDTC114TU	TRANSISTOR
			or UN5215	TRANSISTOR
			or RN1311	TRANSISTOR
		Q3010	DTC114TU	TRANSISTOR
			or PDTC114TU	TRANSISTOR
			or UN5215	TRANSISTOR
			or RN1311	TRANSISTOR
		Q3012	UN521E	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or PDTC144WU	TRANSISTOR
		Q3013	UN521E	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
		Q3014	UN521E	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or PDTC144WU	TRANSISTOR
		Q3015	UN5211	TRANSISTOR
			or DTC114EU	TRANSISTOR
			or RN1302	TRANSISTOR
			or PDTC114EU	TRANSISTOR
		Q4001	UN5211	TRANSISTOR
			or DTC114EU	TRANSISTOR
			or PDTC114EU	TRANSISTOR
			or RN1302	TRANSISTOR
		Q4002	UN5211	TRANSISTOR
			or DTC114EU	TRANSISTOR
			or PDTC114EU	TRANSISTOR
			or RN1302	TRANSISTOR
		Q4003	UN5211	TRANSISTOR
			or DTC114EU	TRANSISTOR
			or RN1302	TRANSISTOR
			or PDTC114EU	TRANSISTOR
		Q6501	DTC143TU	TRANSISTOR
		Q6502	DTC143TU	TRANSISTOR
		Q6551	2SC1740S/QRS/-T	TRANSISTOR
			or 2SC3199/YG/-T	TRANSISTOR
		Q7105	2SC1317/RS/-T	TRANSISTOR
		D251	DA204U	DIODE
		D2001	1SS355	DIODE
		D2121	MTZJ8.2C	ZENER DIODE
		D2601	DAN202U	DIODE
		D3001	LNB2301L01VI	LE DIODE
		D3002	1SS133	DIODE
		D3003	RD39ES/B3/-T2	ZENER DIODE
			or MTZJ39C	ZENER DIODE
		D3004	11ES2	DIODE
			or 1A3G	DIODE
		D3005	11ES2	DIODE
			or 1A3G	DIODE
		D3006	11ES2	DIODE
			or 1A3G	DIODE
		D3007	11ES2	DIODE
			or 1A3G	DIODE
		D3008	11ES2	DIODE
			or 1A3G	DIODE
		D3009	11ES2	DIODE
			or 1A3G	DIODE
		D3010	QUY153-050Y	IM BUS WIRE
		D3011	1SS133	DIODE
		D4001	QUY153-050Y	IM BUS WIRE
		D4002	QUY153-050Y	IM BUS WIRE
		D6002	HZ30-2L-T2	ZENER DIODE
			or HZ30-2LTD	Z DIODE (M)
		D6551	MTZJ10B	ZENER DIODE

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R1	NRVA02D-622X	CMF RESISTOR	6.2kΩ,1/10W
		R2	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
		R3	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R5	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R7	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R8	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R9	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R21	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R22	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R23	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R25	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R26	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
		R27	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R28	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R29	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R30	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R31	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R32	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R34	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R36	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R39	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R42	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R44	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R45	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R46	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R48	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R68	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R70	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R77	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R90	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R92	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R93	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R94	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R104	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R113	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R251	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R252	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R253	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R254	NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
		R255	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R256	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R257	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1701	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1702	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1703	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1704	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R1705	NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
		R1706	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R1707	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R1708	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2003	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2004	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2006	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2009	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2011	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2012	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2013	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2014	NRSA02J-224X	MG RESISTOR	220kΩ,1/10W
		R2015	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R2016	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2017	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2018	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2020	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2021	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2022	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2023	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2053	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R2054	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2055	NRSA02J-3R3X	MG RESISTOR	3.3Ω,1/10W
		R2056	NRSA02J-820X	MG RESISTOR	82Ω,1/10W
		R2057	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2058	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2059	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2060	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R2121	QRE141J-151Y	RESISTOR	150Ω,1/4W
		R2202	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2203	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R2204	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2205	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2206	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R2207	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2218	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R2223	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R2228	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2251	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2281	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2283	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R2284	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R2285	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2289	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2290	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2291	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R2601	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2602	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R2603	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2604	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2605	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R2606	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2607	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2610	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2611	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2612	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2613	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2614	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2615	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2616	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2619	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2621	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2622	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2623	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2624	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2626	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2627	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2628	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R2629	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R2632	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2633	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2636	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2637	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R2640	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R2643	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2644	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2646	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2647	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2648	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2649	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R2652	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2653	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R2654	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R2655	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R2656	QRE141J-390Y	RESISTOR	39Ω,1/4W
		R3011	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3012	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3013	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3014	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3015	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3016	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3017	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3018	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3019	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3020	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3021	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3025	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3026	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3027	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3029	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3030	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3033	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3034	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3035	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3036	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3037	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3038	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3039	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3040	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3041	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3042	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3044	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3046	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3047	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3048	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3049	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3050	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3051	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3052	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3053	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3054	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3055	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3056	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R3057	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3058	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3059	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3060	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3061	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3062	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3066	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3069	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3072	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3073	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3074	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3075	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3076	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3077	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3078	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3079	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3080	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3081	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3083	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3085	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3086	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3087	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3088	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3089	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3090	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3091	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3092	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3093	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3094	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3095	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R3097	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3103	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3105	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3201	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3202	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3203	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3204	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3205	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R3206	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R3207	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R3208	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R3209	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R3210	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R3211	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R3212	QRE141J-474Y	RESISTOR	470kΩ,1/4W
		R3213	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
		R3214	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3215	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3216	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3217	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R3218	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3219	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3220	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3222	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3223	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R3224	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R3226	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3227	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3228	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3229	NRSA02J-105X	MG RESISTOR	1MΩ,1/10W
		R3230	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3231	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3235	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R3236	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R3237	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3238	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R3239	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3240	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R3241	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3243	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3244	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3245	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R3246	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R3247	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3248	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3249	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3250	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3251	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3252	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3254	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3255	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3256	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3257	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3258	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3259	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3261	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3262	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3263	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3264	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3265	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3267	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3268	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3269	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3271	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3272	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R3273	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3274	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3275	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3278	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3279	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3280	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3282	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3283	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3284	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R3289	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R4003	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4004	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R4005	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R4007	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4008	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R4009	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4010	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4011	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4012	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R4013	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4014	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R4015	NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
		R4017	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4018	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R4019	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4020	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R4021	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R6020	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6021	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6022	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6031	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6032	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R6033	NRSA02J-123X	MG RESISTOR	12kΩ,1/10W
		R6501	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R6502	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
		R6503	NRSA02J-124X	MG RESISTOR	120kΩ,1/10W
		R6504	NRSA02J-302X	MG RESISTOR	3kΩ,1/10W
		R6505	NRSA02J-512X	MG RESISTOR	5.1kΩ,1/10W
		R6506	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R6507	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R6508	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R6509	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R6510	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R6511	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
		R6551	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R6552	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R6553	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R6554	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7115	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R7116	NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
		R7117	QRE123J-100X	RESISTOR	10Ω,1/2W
		R7118	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7122	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7124	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B3	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B8	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B18	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B42	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6001	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6030	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6034	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6501	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6502	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6503	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6504	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6565	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6608	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6609	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6610	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B7101	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B7102	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B7103	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B7105	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C1	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C2	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C3	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C4	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C5	QETN1CM-476	E CAPACITOR	47μF,16V
		C6	NCB11EK-104X	CAPACITOR	0.1μF,25V
		C8	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C9	QEKJ1HM-225	E CAPACITOR	2.2μF,50V
		C10	NDC21HG-151X	CAPACITOR	150pF,50V
		C11	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C12	NDC21HJ-7R0X	CAPACITOR	7pF,50V
		C14	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C15	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C16	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C17	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
		C18	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C19	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C20	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C21	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C22	QEKJ0JM-476	E CAPACITOR	47μF,6.3V
		C23	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C24	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C25	NDC21HJ-4R0X	CAPACITOR	4pF,50V
		C26	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C27	NCB21HK-223X	CAPACITOR	0.022μF,50V
		C28	QEKJ1HM-335	E CAPACITOR	3.3μF,50V
		C29	NCB21HK-472X	CAPACITOR	0.0047μF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C30	NCB21CK-474X	CAPACITOR	0.47µF,16V
		C31	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C32	QCBB1HK-103	CAPACITOR	0.01µF,50V
		C33	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C34	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C35	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C36	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C37	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C38	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C39	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C40	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C54	NDC21HJ-221X	CAPACITOR	220pF,50V
		C59	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C60	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
		C61	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C63	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C64	NDC21HJ-120X	CAPACITOR	12pF,50V
		C69	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C70	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C71	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C72	NDC21HJ-470X	CAPACITOR	47pF,50V
		C73	NDC21HJ-120X	CAPACITOR	12pF,50V
		C74	NDC21HJ-7R0X	CAPACITOR	7pF,50V
		C77	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C80	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C84	NDC21HJ-220X	CAPACITOR	22pF,50V
		C94	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C106	NDC21HJ-560X	CAPACITOR	56pF,50V
		C109	NCB21CK-224X	CAPACITOR	0.22µF,16V
		C110	NCB21HK-331X	CAPACITOR	330pF,50V
		C133	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C134	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C251	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C252	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C253	NCB21HK-471X	CAPACITOR	470pF,50V
		C255	NCB21CK-104X	CAPACITOR	0.1µF,16V
		C1701	NCB21EK-223X	CAPACITOR	0.022µF,25V
		C1702	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1703	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1704	NDC21HJ-101X	CAPACITOR	100pF,50V
		C1705	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C1706	NDC21HJ-150X	CAPACITOR	15pF,50V
		C1707	NCB21EK-103X	CAPACITOR	0.01µF,25V
		C1708	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C1709	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C2001	QETN1HM-475	E CAPACITOR	4.7µF,50V
		C2002	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2003	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C2005	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2006	NCB21HK-123X	CAPACITOR	0.012µF,50V
		C2007	QERF1CM-226	E CAPACITOR	22µF,16V
		C2008	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2009	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C2010	NCB21HK-222X	CAPACITOR	0.0022µF,50V
		C2011	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2012	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2017	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2051	NCB21HK-331X	CAPACITOR	330pF,50V
		C2052	QFLC1HJ-823Z	F CAPACITOR	0.082µF,50V
		C2053	NCB21HK-472X	CAPACITOR	0.0047µF,50V
		C2054	NCB21EK-223X	CAPACITOR	0.022µF,25V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C2055	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2201	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C2202	NCB21EK-333X	CAPACITOR	0.033µF,25V
		C2203	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2204	QDGB1HK-102Y	CAPACITOR	0.001µF,50V
		C2205	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C2207	QEKJ1CM-476	E CAPACITOR	47µF,16V
		C2208	QETN1HM-475	E CAPACITOR	4.7µF,50V
		C2209	QEKJ1HM-104	E CAPACITOR	0.1µF,50V
		C2210	QEKJ1HM-104	E CAPACITOR	0.1µF,50V
		C2211	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C2212	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C2215	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2217	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2219	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2220	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2221	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2222	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2223	QEKJ1HM-474	E CAPACITOR	0.47µF,50V
		C2224	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2225	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C2226	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C2227	NCB21CK-104X	CAPACITOR	0.1µF,16V
		C2231	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C2251	QETN1CM-476	E CAPACITOR	47µF,16V
		C2252	QCBB1HK-103	CAPACITOR	0.01µF,50V
		C2253	NCB21CK-104X	CAPACITOR	0.1µF,16V
		C2254	NCB21CK-104X	CAPACITOR	0.1µF,16V
		C2258	NCB21CK-104X	CAPACITOR	0.1µF,16V
		C2282	NDC21HJ-121X	CAPACITOR	120pF,50V
		C2601	QETN1CM-476	E CAPACITOR	47µF,16V
		C2602	QETN1CM-476	E CAPACITOR	47µF,16V
		C2603	QETN1CM-476	E CAPACITOR	47µF,16V
		C2605	QETN1CM-476	E CAPACITOR	47µF,16V
		C2611	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C2612	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3001	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C3002	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3003	QEKJ1HM-106	E CAPACITOR	10µF,50V
		C3004	NCB21CK-473X	CAPACITOR	0.047µF,16V
		C3010	QEZ0244-229	EDL CAPACITOR	0.0022F,5.5V
		C3011	QETN0JM-108	E CAPACITOR	1000µF,6.3V
		C3012	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C3013	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3014	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C3016	NCB21CK-473X	CAPACITOR	0.047µF,16V
		C3022	NCB21CK-473X	CAPACITOR	0.047µF,16V
		C3024	NDC21HJ-120X	CAPACITOR	12pF,50V
		C3026	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C3027	NBE20JM-106X	T CAPACITOR	10µF,6.3V
		C3030	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
		C3031	NCB21CK-473X	CAPACITOR	0.047µF,16V
		C3032	NCB21CK-473X	CAPACITOR	0.047µF,16V
		C3033	NCB21CK-473X	CAPACITOR	0.047µF,16V
		C3036	NDC21HJ-180X	CAPACITOR	18pF,50V
		C3037	NDC21HJ-120X	CAPACITOR	12pF,50V
		C3040	NCB21CK-473X	CAPACITOR	0.047µF,16V
		C3041	NDC21HJ-100X	CAPACITOR	10pF,50V
		C3042	NCB21CK-105X	CAPACITOR	1µF,16V
		C3043	NCB21CK-105X	CAPACITOR	1µF,16V
		C3047	NCB21CK-473X	CAPACITOR	0.047µF,16V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C3048	NCB21CK-473X	CAPACITOR	0.047μF,16V
		C3049	NCB21CK-473X	CAPACITOR	0.047μF,16V
		C4002	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C4003	NCB21HK-102X	CAPACITOR	0.001μF,50V
		C4004	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C4006	NBE40JM-476X	T CAPACITOR	47μF,6.3V
		C4008	NCB21CK-105X	CAPACITOR	1μF,16V
		C4009	NCB21HK-563X	CAPACITOR	0.056μF,50V
		C4010	NCB21EK-223X	CAPACITOR	0.022μF,25V
		C4011	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C4012	NCB21CK-105X	CAPACITOR	1μF,16V
		C4013	NCB21HK-563X	CAPACITOR	0.056μF,50V
		C4014	NDC21HJ-101X	CAPACITOR	100pF,50V
		C4015	NCB21HK-331X	CAPACITOR	330pF,50V
		C4016	NCB21HK-681X	CAPACITOR	680pF,50V
		C4017	NCB21HK-222X	CAPACITOR	0.0022μF,50V
		C4018	NDC21HJ-101X	CAPACITOR	100pF,50V
		C6501	QETN1CM-226	E CAPACITOR	22μF,16V
		C6502	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C6503	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C6504	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C6505	QETN1HM-106	E CAPACITOR	10μF,50V
		C6506	QEKJ1HM-104	E CAPACITOR	0.1μF,50V
		C6507	NCB21EK-473X	CAPACITOR	0.047μF,25V
		C6508	QETN1HM-474	E CAPACITOR	0.47μF,50V
		C6509	NCB21EK-104X	CAPACITOR	0.1μF,25V
		C6510	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C6511	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C6512	QEKJ1HM-105	E CAPACITOR	1μF,50V
		C6513	QETN1HM-335	E CAPACITOR	3.3μF,50V
		C6514	QETN1HM-106	E CAPACITOR	10μF,50V
		C6515	QETN1HM-105	E CAPACITOR	1μF,50V
		C6516	QEKJ1HM-106	E CAPACITOR	10μF,50V
		C6517	QEKJ1HM-106	E CAPACITOR	10μF,50V
		C6518	QETN1HM-105	E CAPACITOR	1μF,50V
		C7119	QETJ0JM-477	E CAPACITOR	470μF,6.3V
		L1	QQL29BJ-100Z	COIL	10μH
		L2	QQL231J-101Y	COIL	100μH
		L3	QQL29BJ-100Z	COIL	10μH
		L4	QQL29BJ-100Z	COIL	10μH
		L5	QQL29BJ-100Z	COIL	10μH
		L11	QQL01BJ-120Z	COIL	12μH
		L13	QQL231J-101Y	COIL	100μH
		L15	QQL29BJ-100Z	COIL	10μH
		L18	QUY153-050Y	IM BUS WIRE	
		L19	QQL231J-100Y	COIL	10μH
		L20	QUY153-050Y	IM BUS WIRE	
		L24	QQL231J-180Y	COIL	18μH
		L28	QQL231J-150Y	COIL	15μH
		L1701	QQL071J-150Y	COIL	15μH
		L1702	QQL29BJ-100Z	COIL	10μH
		L2001	QUY153-050Y	IM BUS WIRE	
		L2251	QQL29BJ-100Z	COIL	10μH
		L2272	QQL231J-1R8Y	COIL	1.8μH
		L6001	QUY153-050Y	IM BUS WIRE	
		L6005	QUY153-050Y	IM BUS WIRE	
		L6031	QUY153-050Y	IM BUS WIRE	
		L6032	QUY153-050Y	IM BUS WIRE	
		L7102	QQL29BJ-101Z	COIL	100μH
		X2	QAX0575-001	CRYSTAL RESONATOR	
		X3001	QAX0444-001	CRYSTAL RESONATOR	
		X3002	QAX0527-001	CRYSTAL RESONATOR	
		S3002	QSW0695-001	PUSH SWITCH,S.CASS SW	
		K2001	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2002	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2003	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2004	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2251	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2252	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		K2253	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		PC3001	GP3S123	IC(PHOTO SENSOR	
		PC3002	GP3S123	IC(PHOTO SENSOR	
		T2051	PELN0832	OSC TRANSFORMER	
		TU6001	QAU0163-001	TUNER	
		ET1	PQ21623-1-5	EARTH PLATE(RF)	
		LF251	PELN0806	LC TRAP	
		SD1	LP30720-001A	SHIELD CASE(PRE/REC)	
		OT1	QYTDSF3010Z	SCREW,X2 TERMINAL	
		WR100	QUQ112-1413CG	FFC WIRE,S-SUB	
		CN1	QGF1028C1-11	FPC CONNECTOR,(1-11)U.DRUM	
		CN901	QGF1207C1-11	FPC CONNECTOR,(1-11)FRONT JAC	
		CN2001	QGF1207C1-07	FPC CONNECTOR,(1-7)A/C HEAD	
		CN2002	QGB2532J1-02	CONNECTOR,(1-2)FE HEAD	
		CN3001	QGF1207C1-05	FPC CONNECTOR,(1-5)DRUM MDA	
		CN3002	QGB2532J1-02	CONNECTOR,(1-2)LOADING MOTOR	
		CN3003	QGB2015M2-08	CONNECTOR,(1-8)CAPSTAN MOTOR	
		CN3004	QGB2534J2-04	CONNECTOR,(1-4)ROTARY ENCODER	
		CN3008	QGF1207C1-10	FPC CONNECTOR,(1-10)DISPLAY	
		CN3009	QGF1016C3-16	FFC/FPC CONNECTOR,(1-16)DIGITAL	
		CN3010	QGF1207C1-06	FPC CONNECTOR,(1-6)SYS UPDATE	
		CN3011	QGB2024K1-14S	CONNECTOR,(1-14)PRE/REC	
		CN5601	QGF1201C2-21	FPC CONNECTOR,(1-21)SW REG	
		CN7105	QGB2024K1-17S	CONNECTOR,(1-17)TERMINAL	
		CN7106	QGB2024K1-17S	CONNECTOR,(1-17)TERMINAL	
		CN7107	QGF1207C1-12	FPC CONNECTOR,(1-12)DIGITAL	
		CN7109	QGF1207C1-14	FPC CONNECTOR,(1-14)S-SUB	
	⚠	CP3002	ICP-N25	CIRCUIT PROTECTOR	
	⚠	CP4001	ICP-N25	CIRCUIT PROTECTOR	

****

3D DIGITAL/4M BOARD ASSEMBLY <05>

PW1	LPA10143-02A	3D DIGITAL/4M BOARD ASSY
IC1401	JCP8026	IC
IC1402	MN47V77S-XE	IC
Q1401	2SC1317/RS/-T	TRANSISTOR
Q1402	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1403	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1406	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1407	2SA1576A/QR/-X	TRANSISTOR
	or 2PA1576/R/-X	TRANSISTOR
Q1408	2SC4081/S/-X	TRANSISTOR
Q1410	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR
Q1412	2SC4081/QRS/-X	TRANSISTOR
	or 2PC4081/R/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		Q1413	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1417	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1418	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1419	DTC124TU	TRANSISTOR	
		D1401	RD4.3ES/B2/-T2	ZENER DIODE	
			or MTZJ4.3B	ZENER DIODE	
		D1402	1SS133	DIODE	
			or 1N4148M	DIODE	
		R1401	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R1402	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1404	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R1406	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1407	NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
		R1410	NRSA02J-241X	MG RESISTOR	240Ω,1/10W
		R1411	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1413	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1414	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1415	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
		R1416	NRSA02J-104X	MG RESISTOR	100kΩ,1/10W
		R1417	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R1418	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R1421	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R1426	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1427	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R1428	NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
		R1429	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R1430	NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
		R1431	NRSA02J-821X	MG RESISTOR	820Ω,1/10W
		R1432	NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
		R1433	NRSA02J-510X	MG RESISTOR	51Ω,1/10W
		R1434	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R1435	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R1436	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R1437	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
		R1438	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1439	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1440	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R1446	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1447	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1448	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1449	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1450	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1452	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1453	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R1455	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1458	NRSA02J-561X	MG RESISTOR	560Ω,1/10W
		R1459	NRSA02J-681X	MG RESISTOR	680Ω,1/10W
		R1460	NRSA02J-273X	MG RESISTOR	27kΩ,1/10W
		R1462	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		VR1401	QVZ3521-103Z	V RESISTOR,D/A LEVEL	
		B1417	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B1419	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C1401	QEKJ1CM-336	E CAPACITOR	33μF,16V
		C1402	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1403	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1404	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1405	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1406	NCB21HK-103X	CAPACITOR	0.01μF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C1407	NDC21HJ-680X	CAPACITOR	68pF,50V
		C1408	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1410	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C1411	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1412	NDC21HJ-680X	CAPACITOR	68pF,50V
		C1413	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1415	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1416	QEKJ1CM-106	E CAPACITOR	10μF,16V
		C1417	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1421	NDC21HJ-330X	CAPACITOR	33pF,50V
		C1422	NDC21HJ-680X	CAPACITOR	68pF,50V
		C1423	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1424	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1425	NCB21HK-103X	CAPACITOR	0.01μF,50V
		C1426	NDC21HJ-390X	CAPACITOR	39pF,50V
		C1428	NDC21HJ-220X	CAPACITOR	22pF,50V
		C1429	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1430	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1432	NCF21CZ-105X	CAPACITOR	1μF,16V
		C1433	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1435	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1436	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1437	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1438	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1439	NCF21CZ-105X	CAPACITOR	1μF,16V
		C1440	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1441	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1442	NCF21CZ-105X	CAPACITOR	1μF,16V
		C1444	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1445	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1446	QEKJ0JM-107	E CAPACITOR	100μF,6.3V
		C1447	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1448	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1449	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1451	QEKJ1EM-475	E CAPACITOR	4.7μF,25V
		C1452	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1453	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1454	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1455	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1456	QEKJ0JM-337	E CAPACITOR	330μF,6.3V
		C1457	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1458	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1459	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1460	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1461	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1462	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1463	QEKJ0JM-336	E CAPACITOR	33μF,6.3V
		C1465	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1466	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1467	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1468	NDC21HJ-470X	CAPACITOR	47pF,50V
		C1471	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1472	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		C1473	NCF21EZ-104X	CAPACITOR	0.1μF,25V
		L1401	QQL29BJ-100Z	COIL	10μH
		L1402	QQL071J-6R8Y	COIL	6.8μH
		L1403	QQL071J-6R8Y	COIL	6.8μH
		L1404	QQL071J-6R8Y	COIL	6.8μH
		L1405	QQL29BJ-100Z	COIL	10μH
		L1406	QQL071J-330Y	COIL	33μH
		L1407	QQL29BJ-100Z	COIL	10μH

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		L1408	QQL29BJ-4R7Z	COIL	4.7µH
		LC1401	QQR0521-013Z	NOISE FILTER	
		LC1402	QQR0521-010Z	NOISE FILTER	
		SD1	LP30706-001C	SHIELD FRAME(S-VHS)	
		SD2	LP30684-001A	SHIELD CASE(S-VHS)	
		CN1401	QGG2502K1-17	HEADER PIN	

****

TERMINAL BOARD ASSEMBLY <06>

	PW1	LPA10116-03C	TERMINAL BOARD ASSY	
	IC7101	BA7623F	IC	
	IC7102	MM1511XN	IC	
	IC7103	BA7623F	IC	
	R7101	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7102	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7103	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7104	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7105	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7106	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7107	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7108	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7109	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7110	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7111	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7112	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7113	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7114	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7115	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7116	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7117	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7118	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7119	QRE141J-750Y	RESISTOR	75Ω,1/4W
	R7120	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7121	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
	R7122	QRE141J-750Y	RESISTOR	75Ω,1/4W
	R7123	QRE141J-750Y	RESISTOR	75Ω,1/4W
	R7125	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7126	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	R7151	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
	B7111	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B7112	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B7113	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B7114	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B7117	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	B7118	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C7101	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C7102	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C7103	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
	C7104	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C7105	QETL0JM-108	E CAPACITOR	1000µF,6.3V
	C7106	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C7107	QETL0JM-108	E CAPACITOR	1000µF,6.3V
	C7109	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	C7110	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C7117	QEKJ1CM-106	E CAPACITOR	10µF,16V
	C7118	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C7119	QEKJ0JM-476	E CAPACITOR	47µF,6.3V
	C7120	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
	C7121	NCB21HK-103X	CAPACITOR	0.01µF,50V
	C7125	QETJ0JM-477	E CAPACITOR	470µF,6.3V
	C7126	QETJ0JM-477	E CAPACITOR	470µF,6.3V
	C7127	QETJ0JM-477	E CAPACITOR	470µF,6.3V
	L7101	QUY153-050Y	IM BUS WIRE	
	L7102	QUY153-050Y	IM BUS WIRE	
	J7101	QND0009-001	S JACK,S-IN1	
	J7102	QNN0364-002	PIN JACK,RCA IN1	
	J7105	QND0009-001	S JACK,S-IN2	
	J7106	QNN0364-002	PIN JACK,RCA IN2	
	J7109	QND0009-001	S JACK,S-OUT1	
	J7110	QNN0363-002	PIN JACK,RCA OUT1	
	J7113	QND0009-001	S JACK,S-OUT2	
	J7114	QNN0363-002	PIN JACK,RCA OUT2	
	J7123	PEMC1190	MINI JACK,JLIP	
	J7124	PU60659	MINI JACK,R.PAUSE	
	J7125	PU60659	MINI JACK,C.BOX	
	J7127	QNN0363-003	PIN JACK,YCBCR	
⚠		TB1	LP30826-004C	TERMINAL BOARD ASSY
		OT3	QYTDSF3010Z	SCREW,X4
		OT4	QYTDSF3010M	SCREW,X2
		CN7101	QGB2024J1-17S	CONNECTOR,(1-17)MAIN
		CN7102	QGB2024J1-17S	CONNECTOR,(1-17)MAIN
		CN7104	QGF1016F5-09	FFC/FPC CONNECTOR,(1-9)DIGITAL

****

A/C HEAD BOARD ASSEMBLY <12>

	PW1	LPA10010-01A1	A/C HEAD BOARD ASSY
	CN1	QGF1208F1-07	FPC CONNECTOR

****

S-SUB BOARD ASSEMBLY <15>

	PW1	LPA10103-05A	S-SUB BOARD ASSY	
	IC501	JCP8038	IC	
	IC502	VC2076DP	IC	
	R503	NRSA02J-221X	MG RESISTOR	220Ω,1/10W
	R504	NRSA02J-362X	MG RESISTOR	3.6kΩ,1/10W
	R505	NRSA02J-392X	MG RESISTOR	3.9kΩ,1/10W
	R506	NRSA02J-391X	MG RESISTOR	390Ω,1/10W
	R507	NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
	R508	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
	R509	NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W
	R510	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
	R511	NRVA02D-471X	CMF RESISTOR	470Ω,1/10W
	R512	NRVA02D-102X	CMF RESISTOR	1kΩ,1/10W
	R513	NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
	R514	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
	R515	NRVA02D-332X	CMF RESISTOR	3.3kΩ,1/10W
	R516	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R517	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
	R522	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
	R523	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R524	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R525	NRSA02J-125X	MG RESISTOR	1.2MΩ,1/10W
		R527	NRSA02J-332X	MG RESISTOR	3.3kΩ,1/10W
		R531	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R532	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R533	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R534	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R535	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R536	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		B501	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B503	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C501	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C502	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C503	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C504	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C505	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C506	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C507	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
		C508	QEPF1HM-474	NP E CAPACITOR	0.47µF,50V
		C509	QEKJ1CM-106	E CAPACITOR	10µF,16V
		C510	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
		C511	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C512	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C513	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C514	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C515	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C516	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C517	NCF21EZ-104X	CAPACITOR	0.1µF,25V
		C518	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C519	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C520	QERF1EM-475	E CAPACITOR	4.7µF,25V
		C521	QEKJ1EM-475	E CAPACITOR	4.7µF,25V
		C522	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C523	QEKJ1HM-225	E CAPACITOR	2.2µF,50V
		C524	NDC21HG-301X	CAPACITOR	300pF,50V
		C525	NDC21HG-301X	CAPACITOR	300pF,50V
		C526	NDC21HJ-101X	CAPACITOR	100pF,50V
		C527	NDC21HJ-181X	CAPACITOR	180pF,50V
		C528	NDC21HG-271X	CAPACITOR	270pF,50V
		C529	NDC21HG-820X	CAPACITOR	82pF,50V
		C530	NDC21HG-221X	CAPACITOR	220pF,50V
		C531	NDC21HG-301X	CAPACITOR	300pF,50V
		C532	NDC21HG-301X	CAPACITOR	300pF,50V
		C533	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C534	QETJ0JM-477	E CAPACITOR	470µF,6.3V
		C535	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C551	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C552	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C553	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C554	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C555	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C556	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C557	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C558	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C559	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C560	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C561	QEKJ1HM-105	E CAPACITOR	1µF,50V
		C563	NCB21HK-103X	CAPACITOR	0.01µF,50V
		L501	QQL29BJ-100Z	COIL	10µH
		L503	QQL29BJ-100Z	COIL	10µH
		L504	QQL29BJ-100Z	COIL	10µH

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		BK1	LP40077-001A	BRACKET(BOARD)	
		CN511	QGG2503K2-30	HEADER PIN,(1-30)MAIN	
		CN512	QGF1209F2-14	FFC/FPC CONNE,(1-14)MAIN	

****

DISPLAY BOARD ASSEMBLY <28>

		REF No.	PART No.	PART NAME, DESCRIPTION	
		PW1	LPA10133-01B1	DISPLAY BOARD ASSY	
		IC7001	UPD16315GB-3BS	IC	
		IC7002	GP1U281X	IR DETECT UNIT	
			or PNA4652M00XB	IR DETECT UNIT	
		D7001	1SS133	DIODE	
			or 1SS270A	DIODE	
		D7002	1SS133	DIODE	
			or 1SS270A	DIODE	
		D7003	1SS133	DIODE	
			or 1SS270A	DIODE	
		D7004	1SS133	DIODE	
			or 1SS270A	DIODE	
		D7005	1SS133	DIODE	
			or 1SS270A	DIODE	
		D7006	1SS133	DIODE	
			or 1SS270A	DIODE	
		D7007	1SS133	DIODE	
			or 1SS270A	DIODE	
		D7008	1SS133	DIODE	
			or 1SS270A	DIODE	
		D7010	1SS133	DIODE	
			or 1SS270A	DIODE	
		D7011	RD9.1ES/B2/-T2	ZENER DIODE	
		D7041	SLR-342MC3F	LE DIODE	
		D7042	SLR-342MC3F	LE DIODE	
		R7001	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7002	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7003	NRSA02J-823X	MG RESISTOR	82kΩ,1/10W
		R7005	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
		R7006	QRE141J-472Y	RESISTOR	4.7kΩ,1/4W
		R7007	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R7009	QRE141J-103Y	RESISTOR	10kΩ,1/4W
		R7010	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R7013	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R7014	NRSA02J-333X	MG RESISTOR	33kΩ,1/10W
		R7015	QRE141J-102Y	RESISTOR	1kΩ,1/4W
		R7016	QUY153-050Y	IM BUS WIRE	
		R7043	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R7044	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R7101	QUY153-050Y	IM BUS WIRE	
		B7001	QUY153-050Y	IM BUS WIRE	
		C7001	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C7002	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C7003	QEKJ1HM-106	E CAPACITOR	10µF,50V
		C7004	NDC21HJ-330X	CAPACITOR	33pF,50V
		C7005	NDC21HJ-330X	CAPACITOR	33pF,50V
		C7006	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
		C7008	QEKJ0JM-227	E CAPACITOR	220µF,6.3V
		C7010	NCB21HK-473X	CAPACITOR	0.047µF,50V
		C7011	QCFB1HZ-473	CAPACITOR	0.047µF,50V
		L7001	QUY153-050Y	IM BUS WIRE	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		S7001	QSW0381-001Z	TACT SWITCH,PLAY
		S7002	QSW0381-001Z	TACT SWITCH,STOP/EJECT
		S7003	QSW0381-001Z	TACT SWITCH,REC
		S7004	QSW0381-001Z	TACT SWITCH,PAUSE
		S7005	QSW0381-001Z	TACT SWITCH,REW
		S7006	QSW0381-001Z	TACT SWITCH,FF
		S7007	QSW0381-001Z	TACT SWITCH,D-VHS
		S7008	QSW0381-001Z	TACT SWITCH,REC SPEED
		S7009	QSW0381-001Z	TACT SWITCH,CH-
		S7010	QSW0381-001Z	TACT SWITCH,CH+
		S7011	QSW0381-001Z	TACT SWITCH,S-ET
		S7012	QSW0381-001Z	TACT SWITCH,TBC/NR
		S7013	QSW0381-001Z	TACT SWITCH,DISPLAY
		S7014	QSW0381-001Z	TACT SWITCH,TIMER
		S7015	QSW0381-001Z	TACT SWITCH,POWER
		DI7001	QLF0078-001	FL TUBE
		HD1	PQM30038-2-2	LED HOLDER,D7041
		HD2	PQM30038-2-2	LED HOLDER,D7042
		HD3	LP30428-001A	FDP HOLDER(L),DI7001
		HD4	LP30429-001A	FDP HOLDER(R),DI7001
		CN7002	QGF1201C2-10	FPC CONNECTOR,(1-10)MAIN
		CN7005	QGF1201C1-05	FPC CONNECTOR,(1-5)SW.REG

****

REC SAFETY BOARD ASSEMBLY <32>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW3	LPA10133-01B3	REC SAFETY BOARD ASSY
		S7061	QSW0602-004	PUSH SWITCH
		S7063	QSW0695-001	PUSH SWITCH,D.CASS SW
		FW7081	QUM033-07A4A4	PARA RIBON WIRE

****

JACK BOARD ASSEMBLY <36>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		PW2	LPA10133-01B2	JACK BOARD ASSY	
		D7199	RD9.1ES/B2/-T2	ZENER DIODE	
		R7191	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R7192	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R7193	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R7194	NRSA02J-820X	MG RESISTOR	82Ω,1/10W
		C7196	NCB21EK-103X	CAPACITOR	0.01µF,25V
		L7191	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		L7192	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		L7193	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		L7194	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		J7191	QNN0371-004	PIN JACK,VIDEO IN	
		J7192	QNN0372-003	PIN JACK,AUDEO IN(L)	
		J7193	QNN0372-002	PIN JACK,AUDIO IN(R)	
		J7194	QND0010-001	S JACK,S VIDEO	
		CN7191	QGF1207C1-11	FPC CONNECTOR,(1-11)MAIN	

****

D-PRE/REC BOARD ASSEMBLY <43>

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		PW1	LPA10136-02A	D-PRE/REC BOARD ASSY
		IC601	JCP0024	IC
		IC602	JCP0024	IC
		IC603	TC74HC02AF	IC
		IC604	TC74HC08AF	IC
		IC605	BA10358F-XE	IC
		IC606	CXA1211M	IC
		IC607	CXA1211M	IC
		Q601	2SA1532/C/-X	TRANSISTOR
		Q602	2SA1532/C/-X	TRANSISTOR
		Q603	2SA1532/C/-X	TRANSISTOR
		Q604	2SC3936/BC/-X	TRANSISTOR
		Q605	2SC3936/BC/-X	TRANSISTOR
		Q606	2SC3936/BC/-X	TRANSISTOR
		Q607	2SC4226/4/-X	TRANSISTOR
		Q608	2SC4226/4/-X	TRANSISTOR
		Q609	2SC4226/4/-X	TRANSISTOR
		Q610	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q611	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q612	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q613	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q614	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q615	2SC3936/BC/-X	TRANSISTOR
		Q616	2SC3936/BC/-X	TRANSISTOR
		Q617	2SC3936/BC/-X	TRANSISTOR
		Q618	2SC4670	TRANSISTOR
		Q619	2SC4670	TRANSISTOR
		Q620	2SC4670	TRANSISTOR
		Q621	DTA114EU	TRANSISTOR
			or PDTA114EU	TRANSISTOR
			or RN2302	TRANSISTOR
			or UN5111	TRANSISTOR
		Q622	DTA114EU	TRANSISTOR
			or RN2302	TRANSISTOR
			or UN5111	TRANSISTOR
			or PDTA114EU	TRANSISTOR
		Q623	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q624	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q625	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q626	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q627	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q628	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q629	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q630	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q631	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q632	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q633	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q634	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q635	2SA1532/C/-X	TRANSISTOR
		Q636	2SA1532/C/-X	TRANSISTOR
		Q637	2SC3936/BC/-X	TRANSISTOR
		Q638	2SC3936/BC/-X	TRANSISTOR
		Q639	2SC4226/4/-X	TRANSISTOR
		Q640	2SC4226/4/-X	TRANSISTOR
		Q641	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q642	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q643	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q644	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q645	2SC3936/BC/-X	TRANSISTOR
		Q646	2SC3936/BC/-X	TRANSISTOR
		Q647	2SC4670	TRANSISTOR
		Q648	2SC4670	TRANSISTOR
		Q649	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q650	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q651	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q652	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q653	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q654	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q655	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q656	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q661	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q662	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q663	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q664	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q665	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
		Q666	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q667	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or UN511E	TRANSISTOR
			or RN2309	TRANSISTOR
		Q668	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q669	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
		Q670	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q671	DTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
			or PDTA144WU	TRANSISTOR
		Q672	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or UN511E	TRANSISTOR
			or RN2309	TRANSISTOR
		Q673	DTA144WU	TRANSISTOR
			or PDTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
		D601	1SS355	DIODE
		D602	1SS355	DIODE
		D604	1SS355	DIODE

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		D605	1SS355	DIODE	
		D606	1SS355	DIODE	
		D607	DA204U	DIODE	
		D608	1SS355	DIODE	
		R601	NRVA02D-100X	CMF RESISTOR	10Ω,1/10W
		R602	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R603	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R604	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
		R605	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R606	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
		R607	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R608	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R609	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R610	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R611	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R612	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R613	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R614	NRSA02J-154X	MG RESISTOR	150kΩ,1/10W
		R615	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R616	NRSA02J-181X	MG RESISTOR	180Ω,1/10W
		R617	NRSA02J-154X	MG RESISTOR	150kΩ,1/10W
		R618	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R619	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R620	NRSA02J-154X	MG RESISTOR	150kΩ,1/10W
		R621	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R622	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R623	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R625	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
		R627	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R628	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R629	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R630	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R631	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R632	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R633	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R634	NRVA02D-330X	CMF RESISTOR	33Ω,1/10W
		R636	NRSA02J-511X	MG RESISTOR	510Ω,1/10W
		R637	NRVA02D-330X	CMF RESISTOR	33Ω,1/10W
		R638	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R639	NRVA02D-330X	CMF RESISTOR	33Ω,1/10W
		R640	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R641	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R642	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R643	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R644	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R645	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R646	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R647	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R648	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R649	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R650	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R651	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R652	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R653	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R654	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R655	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R656	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R657	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R658	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R659	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R660	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R661	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R662	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R663	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R664	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R665	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R666	NRSA02J-100X	MG RESISTOR	10Ω,1/10W
		R667	NRVA02D-100X	CMF RESISTOR	10Ω,1/10W
		R668	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R669	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R670	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R671	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R672	NRSA02J-154X	MG RESISTOR	150kΩ,1/10W
		R673	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R674	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R675	NRSA02J-154X	MG RESISTOR	150kΩ,1/10W
		R676	NRSA02J-331X	MG RESISTOR	330Ω,1/10W
		R677	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R678	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R680	NRSA02J-334X	MG RESISTOR	330kΩ,1/10W
		R681	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R682	NRSA02J-151X	MG RESISTOR	150Ω,1/10W
		R683	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R684	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R685	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R686	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R687	NRVA02D-330X	CMF RESISTOR	33Ω,1/10W
		R688	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R689	NRVA02D-330X	CMF RESISTOR	33Ω,1/10W
		R690	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R691	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R692	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R693	NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
		R694	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R695	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		R696	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R697	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R698	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R699	NRSA02J-471X	MG RESISTOR	470Ω,1/10W
		R700	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R701	NRSA02J-153X	MG RESISTOR	15kΩ,1/10W
		R702	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R703	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R704	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R705	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R706	NRSA02J-750X	MG RESISTOR	75Ω,1/10W
		R714	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R715	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R716	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R719	NRSA02J-152X	MG RESISTOR	1.5kΩ,1/10W
		R720	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R721	NRSA02J-183X	MG RESISTOR	18kΩ,1/10W
		R722	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R723	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R724	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R725	NRSA02J-271X	MG RESISTOR	270Ω,1/10W
		R726	NRSA02J-560X	MG RESISTOR	56Ω,1/10W
		R727	NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
		R728	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R730	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R736	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R737	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R738	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R739	NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
		R740	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R741	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R742	NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
		R743	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R744	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R745	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		R746	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R747	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R748	NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
		R749	NRSA02J-101X	MG RESISTOR	100Ω,1/10W
		B1	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B2	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B3	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B4	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B5	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		B6	NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
		C601	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C602	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C603	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C604	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C605	NCB21AK-105X	CAPACITOR	1µF,10V
		C606	NCB21AK-105X	CAPACITOR	1µF,10V
		C607	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C608	NCB21AK-105X	CAPACITOR	1µF,10V
		C609	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C610	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C611	NCB21AK-105X	CAPACITOR	1µF,10V
		C612	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C613	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C614	NCB21AK-105X	CAPACITOR	1µF,10V
		C615	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C616	NCB21AK-105X	CAPACITOR	1µF,10V
		C617	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C618	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C619	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C620	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C621	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C622	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C623	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C624	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C625	NCB21AK-105X	CAPACITOR	1µF,10V
		C626	NCB21AK-105X	CAPACITOR	1µF,10V
		C627	NCB21AK-105X	CAPACITOR	1µF,10V
		C628	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C629	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C630	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C631	NCB21AK-105X	CAPACITOR	1µF,10V
		C632	NCB21AK-105X	CAPACITOR	1µF,10V
		C633	NCB21AK-105X	CAPACITOR	1µF,10V
		C634	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C635	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C636	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C637	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C638	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C639	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C640	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C641	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C642	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C643	NCB21AK-105X	CAPACITOR	1µF,10V
		C644	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C645	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C646	NCB21AK-105X	CAPACITOR	1µF,10V
		C647	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C648	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C649	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C650	NCB21AK-105X	CAPACITOR	1µF,10V
		C651	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C652	NCB21AK-105X	CAPACITOR	1µF,10V
		C653	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C654	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C655	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C656	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C657	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C658	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C659	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C660	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C661	NCB21AK-105X	CAPACITOR	1µF,10V
		C662	NCB21AK-105X	CAPACITOR	1µF,10V
		C663	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C664	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C665	NCB21AK-105X	CAPACITOR	1µF,10V
		C666	NCB21AK-105X	CAPACITOR	1µF,10V
		C667	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C668	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C669	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C670	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C671	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C672	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C673	NCB21AK-105X	CAPACITOR	1µF,10V
		C674	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C678	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C679	QEKJ0JM-107	E CAPACITOR	100µF,6.3V
		C680	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C681	NCB21HK-102X	CAPACITOR	0.001µF,50V
		C682	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C683	NDC21HJ-471X	CAPACITOR	470pF,50V
		C684	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C685	NCB21AK-105X	CAPACITOR	1µF,10V
		C686	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C687	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C688	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C689	NCB21EK-104X	CAPACITOR	0.1µF,25V
		C691	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C692	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C693	NCB21HK-103X	CAPACITOR	0.01µF,50V
		C694	NCB21HK-103X	CAPACITOR	0.01µF,50V
		L601	QQL29BJ-100Z	COIL	10µH
		L602	QQL29BJ-100Z	COIL	10µH
		L603	QQL29BJ-100Z	COIL	10µH
		L604	QQL29BJ-101Z	COIL	100µH
		L605	QQL29BJ-100Z	COIL	10µH
		L606	QQL29BJ-100Z	COIL	10µH
		L607	QQL29BJ-100Z	COIL	10µH
		L608	QQL29BJ-101Z	COIL	100µH
		L609	QQL29BJ-100Z	COIL	10µH
		SD1	LP20940-001A	SHIELD FRAME(PRE)	
		CN601	QGA2001F1-04	CONNECTOR,(1-4)DIGITAL	
		CN603	QGA2001F1-04	CONNECTOR,(1-4)DIGITAL	
		CN605	QGB2024J1-14S	CONNECTOR,(1-14)MAIN	
		CN606	QGF1202C1-10	FPC CONNECTOR,(1-10)U.DRUM	

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION

****

DIGITAL BOARD ASSEMBLY <50>

		PW1	LPA10125-03D	DIGITAL BOARD ASSY
		IC1	M32120FC-109WG	IC(MCU)
		IC2	S-80919ANMP-W	IC
		IC4	AT45DB011-SC-X	IC
		IC5	AT45DB011-XC-X	IC
		IC6	SN74HCT08APW	IC
		IC7	SN74HCT08APW	IC
		IC8	SN74HCT08APW	IC
		IC9	SN74LV08APW	IC
		IC10	SN74AHCT1G125	IC(DIGITAL)
		IC201	JCP8052	IC
		IC202	K4S161622D-TC80	IC
			or HY57V161610DTC8	IC
		IC203	NAX0373-001X	CXO
		IC204	TC7SH08FU	IC(DIGITAL)
			or SN74AHC1G08K	IC
		IC205	TC7SHU04FU	IC(DIGITAL)
		IC206	BA10358F-XE	IC
		IC207	SN74LVCU04APW	IC(DIGITAL)
		IC208	SN74LVCU04APW	IC(DIGITAL)
		IC209	SN74LVCU04APW	IC(DIGITAL)
		IC210	TC7SHU04FU	IC(DIGITAL)
		IC213	TC7SH04FU	IC(DIGITAL)
		IC214	TC7SH08FU	IC(DIGITAL)
			or SN74AHC1G08K	IC
		IC402	TLC2932	IC
		IC404	TLC2932	IC
		IC405	SN74LV74APW	IC
		IC406	TC7SH04FU	IC(DIGITAL)
			or SN74AHC1G04K	IC
		IC601	DVXCEL-BA1	IC(DIGITAL)
		IC602	K4S161622D-TC80	IC
			or HY57V161610DTC8	IC
		IC603	K4S161622D-TC80	IC
			or HY57V161610DTC8	IC
		IC604	K4S161622D-TC80	IC
			or HY57V161610DTC8	IC
		IC605	K4S161622D-TC80	IC
			or HY57V161610DTC8	IC
		IC606	TC7SHU04FU	IC(DIGITAL)
		IC607	TC7SH04FU	IC(DIGITAL)
			or SN74AHC1G04K	IC
		IC802	LC74731W-9807	IC(MICRO C ROM)
		IC803	LE28FV2001ATS15	IC
		IC808	SI-3025LS-X	IC
			or SI-3025LSA-X	IC
		IC810	SN74LV08APW	IC
		IC814	SI-3012LU-X	IC
		IC1001	JCP8037-2	IC
		IC1002	K4S643232C-TC80	IC
			or K4S643232C-TC70	IC
			or KM432S2030CT-G7	IC
		IC1003	K4S643232C-TC80	IC
			or K4S643232C-TC70	IC
			or KM432S2030CT-G7	IC
		IC1004	TC7SZ04FU	IC
		IC1201	JCP8044	IC
		IC1202	TC7SH04FU	IC(DIGITAL)
		IC1401	JCP8034-2	IC
		IC1403	SST39VF160-9CEK	IC(MICRO C ROM)
			or MBM29LV160TE70N	IC
			or SST39VF160-7CEK	IC(MICRO C ROM)
		IC1404	MK2703	IC
		IC1601	UPD61003GC-A01	IC
		IC1701	UPD61002GC-A01	IC(DIGITAL)
		IC1801	AK4522VF	IC
		IC1802	BA15218F-XE	IC
		IC1803	BA15218F-XE	IC
		IC1804	GP1F32T	OPT
		Q1	DTC144EU	TRANSISTOR
			or PDTC144EU	TRANSISTOR
			or RN1304	TRANSISTOR
			or UN5213	TRANSISTOR
		Q401	DTC114EU	TRANSISTOR
			or PDTC114EU	TRANSISTOR
			or RN1302	TRANSISTOR
			or UN5211	TRANSISTOR
		Q402	UMT2N	PAIR TRANSISTOR
		Q403	UMX2N	PAIR TRANSISTOR
		Q404	UMT2N	PAIR TRANSISTOR
		Q405	2SC3930/C/-X	TRANSISTOR
		Q406	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q407	2SC3930/C/-X	TRANSISTOR
		Q408	2SA1532/C/-X	TRANSISTOR
		Q409	2SC4670	TRANSISTOR
			or 2SC5632	TRANSISTOR
		Q410	UMT2N	PAIR TRANSISTOR
		Q411	UMX2N	PAIR TRANSISTOR
		Q412	UMT2N	PAIR TRANSISTOR
		Q413	2SC3930/C/-X	TRANSISTOR
		Q414	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q415	2SC3930/C/-X	TRANSISTOR
		Q416	2SA1532/C/-X	TRANSISTOR
		Q417	2SC4670	TRANSISTOR
			or 2SC5632	TRANSISTOR
		Q418	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q419	DTC114EU	TRANSISTOR
			or PDTC114EU	TRANSISTOR
			or RN1302	TRANSISTOR
			or UN5211	TRANSISTOR
		Q420	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q421	2SA1532/C/-X	TRANSISTOR
		Q422	2SC3930/C/-X	TRANSISTOR
		Q423	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q424	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q425	2SA1532/C/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION
		Q426	2SC3930/C/-X	TRANSISTOR
		Q427	UMT2N	PAIR TRANSISTOR
		Q428	UMT2N	PAIR TRANSISTOR
		Q801	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q802	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q803	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q805	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q806	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q807	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q809	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q810	2SA1576A/QR/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q811	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q813	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q814	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q815	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q817	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q818	2SA1576A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q819	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q821	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q822	2SA1576A/QRS/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q823	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q824	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q825	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q826	2SA1576A/QRS/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q831	2SA1576A/QRS/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q832	2SA1576A/QRS/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q833	2SA1576A/QRS/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q834	2SA1576A/QRS/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q835	2SA1576A/QRS/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q836	DTC144WU	TRANSISTOR
			or PDTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
		Q837	2SA1576A/QRS/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q838	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q839	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q840	2SA1576A/QRS/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q1001	2SA1576A/QRS/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q1002	2SA1576A/QRS/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1003	2SA1576A/QRS/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q1004	2SA1576A/QRS/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
		Q1005	2SA1576A/QRS/-X	TRANSISTOR
			or 2PA1576/R/-X	TRANSISTOR
			or 2SB1218A/QR/-X	TRANSISTOR
		Q1006	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1007	2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
		Q1008	2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
		Q1009	2SC4081/QRS/-X	TRANSISTOR

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
		Q1010	2SA1576A/QR/-X	TRANSISTOR	
			or 2PA1576/R/-X	TRANSISTOR	
		Q1011	2SC4081/QRS/-X	TRANSISTOR	
			or 2SB1218A/QR/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
		D201	UDZ2.2B	ZENER DIODE	
		D202	UDZ3.0B	ZENER DIODE	
		D203	MA304	VARI CAP DIODE	
		D802	1SS355	DIODE	
		D803	1SS355	DIODE	
		D804	1SS355	DIODE	
		D805	1SS355	DIODE	
		D806	1SS355	DIODE	
		D1001	UDZ5.1B	ZENER DIODE	
		R1	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R2	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R3	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R4	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R5	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R6	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R7	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R8	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R9	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R10	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R11	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
		R12	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R13	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R14	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R15	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R16	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R17	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R18	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R19	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R20	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R21	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R22	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R23	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R24	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R25	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R26	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R27	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R28	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R29	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R30	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R31	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R32	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R33	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R34	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R35	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R36	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R37	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R38	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R39	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R40	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R41	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R42	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R45	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R46	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R47	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R49	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R51	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R52	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R53	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R54	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R55	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R56	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R57	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R58	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R59	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R60	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R61	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R62	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R65	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R66	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R69	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R70	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R71	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R72	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R73	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R74	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R75	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R76	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R77	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R78	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R79	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R80	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R81	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R82	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R83	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R84	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R85	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R86	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R87	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R88	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R89	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R90	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R91	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R92	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R93	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R94	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R95	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R96	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R97	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R98	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R99	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R100	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R101	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R102	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R103	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R104	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R105	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R109	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R110	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R112	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R113	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R115	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R116	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R117	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R118	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R201	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R202	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R203	NRSA63J-220X	MG RESISTOR	22Ω,1/16W
		R204	NRVA63D-392X	CMF RESISTOR	3.9kΩ,1/16W
		R205	NRVA63D-682X	CMF RESISTOR	6.8kΩ,1/16W
		R206	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R208	NRVA63D-822X	CMF RESISTOR	8.2kΩ,1/16W
		R209	NRSA63J-220X	MG RESISTOR	22Ω,1/16W
		R211	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
		R212	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R213	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R214	NRSA63J-393X	MG RESISTOR	39kΩ,1/16W
		R215	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R216	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R217	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R218	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
		R219	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R220	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R221	NRSA63J-473X	MG RESISTOR	47kΩ,1/16W
		R222	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R224	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R226	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R227	NRVA63D-103X	CMF RESISTOR	10kΩ,1/16W
		R228	NRSA63J-512X	MG RESISTOR	5.1kΩ,1/16W
		R229	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
		R230	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
		R231	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
		R232	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
		R233	NRSA63J-512X	MG RESISTOR	5.1kΩ,1/16W
		R234	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
		R235	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
		R236	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
		R237	NRSA63J-560X	MG RESISTOR	56Ω,1/16W
		R238	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R240	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R241	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R242	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R245	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R246	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R250	NRSA63J-394X	MG RESISTOR	390kΩ,1/16W
		R251	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R253	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R254	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R255	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R256	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R259	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R261	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R262	NRVA63D-151X	CMF RESISTOR	150Ω,1/16W
		R263	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R264	NRVA63D-151X	CMF RESISTOR	150Ω,1/16W
		R265	NRVA63D-151X	CMF RESISTOR	150Ω,1/16W
		R266	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R267	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R268	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R272	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R273	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R274	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R275	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
		R276	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R277	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
		R403	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R404	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R405	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R406	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R407	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R408	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R409	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R410	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
		R411	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
		R412	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R413	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R414	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R415	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R420	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
		R421	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R422	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R423	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R424	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R425	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
		R426	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R427	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R428	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
		R429	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R430	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R431	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R432	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R435	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R436	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R437	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R438	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R439	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R440	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R441	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R442	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
		R443	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
		R444	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R445	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R446	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R447	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R452	NRSA63J-392X	MG RESISTOR	3.9kΩ,1/16W
		R453	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R454	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R455	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R456	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R457	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
		R458	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R459	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R460	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
		R461	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R462	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R463	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R464	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R465	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
		R466	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R467	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R468	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
		R469	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R470	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R471	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R472	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R473	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R474	NRSA63J-101X	MG RESISTOR	100Ω,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R475	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
		R476	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R477	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R478	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
		R479	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
		R480	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R481	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
		R482	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R483	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R484	NRSA63J-563X	MG RESISTOR	56kΩ,1/16W
		R485	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R486	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R487	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R488	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R489	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R490	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R491	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
		R492	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R493	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R494	NRSA63J-333X	MG RESISTOR	33kΩ,1/16W
		R495	NRSA63J-562X	MG RESISTOR	5.6kΩ,1/16W
		R496	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R497	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R601	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R603	NRSA63J-105X	MG RESISTOR	1MΩ,1/16W
		R604	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
		R605	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R607	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R608	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R609	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R610	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R612	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R613	NRSA63J-203X	MG RESISTOR	20kΩ,1/16W
		R614	NRSA63J-203X	MG RESISTOR	20kΩ,1/16W
		R616	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R618	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R619	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R620	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R622	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R623	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R625	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R626	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R628	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R629	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R630	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R631	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R632	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R633	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R634	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R635	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R636	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R637	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R638	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R639	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R640	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R641	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R642	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R643	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R644	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R645	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R646	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R647	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R648	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R649	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R650	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R651	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R652	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R653	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R654	NRSA63J-750X	MG RESISTOR	75Ω,1/16W
		R657	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R803	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R804	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R806	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R807	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R808	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
		R809	NRSA63J-301X	MG RESISTOR	300Ω,1/16W
		R810	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
		R811	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R812	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R813	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R814	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R815	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R816	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R819	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R820	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
		R821	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R822	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
		R823	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R824	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R825	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R826	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R827	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R828	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R831	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R832	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
		R833	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R834	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
		R835	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R836	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R837	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R838	NRSA63J-821X	MG RESISTOR	820Ω,1/16W
		R839	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R840	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R843	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R844	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R845	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R846	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R847	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R848	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
		R849	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R850	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R851	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R852	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R855	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R856	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R857	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R858	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R859	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R860	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
		R861	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
		R862	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R863	NRSA63J-681X	MG RESISTOR	680Ω,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R864	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R867	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R868	NRSA63J-153X	MG RESISTOR	15kΩ,1/16W
		R869	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R870	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R871	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R872	NRSA63J-222X	MG RESISTOR	2.2kΩ,1/16W
		R873	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R874	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R875	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R877	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R878	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R879	NRSA63J-223X	MG RESISTOR	22kΩ,1/16W
		R880	NRSA63J-273X	MG RESISTOR	27kΩ,1/16W
		R881	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R882	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R883	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R885	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R886	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R890	NDC31HJ-270X	CAPACITOR	27pF,50V
		R891	NRSA63J-681X	MG RESISTOR	680Ω,1/16W
		R892	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R893	NRSA63J-151X	MG RESISTOR	150Ω,1/16W
		R894	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R895	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R897	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R901	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R903	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R904	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R905	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R906	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R907	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R908	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R909	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R910	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R911	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R927	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R928	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R930	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R931	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R933	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R934	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R935	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
		R937	NRSA63J-183X	MG RESISTOR	18kΩ,1/16W
		R938	NRSA63J-391X	MG RESISTOR	390Ω,1/16W
		R939	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R940	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
		R943	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R946	NRVA63D-104X	CMF RESISTOR	100kΩ,1/16W
		R947	NRVA63D-513X	CMF RESISTOR	51kΩ,1/16W
		R950	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R1001	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R1002	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R1003	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R1004	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R1005	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R1006	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1008	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
		R1009	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
		R1010	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R1011	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R1012	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1013	NRSA63J-330X	MG RESISTOR	33Ω,1/16W
		R1015	NRSA63J-332X	MG RESISTOR	3.3kΩ,1/16W
		R1016	NRSA63J-122X	MG RESISTOR	1.2kΩ,1/16W
		R1017	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R1018	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1019	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1020	NRSA63J-330X	MG RESISTOR	33Ω,1/16W
		R1021	NRVA63D-101X	CMF RESISTOR	100Ω,1/16W
		R1022	NRVA63D-750X	CMF RESISTOR	75Ω,1/16W
		R1023	NRVA63D-750X	CMF RESISTOR	75Ω,1/16W
		R1024	NRVA63D-201X	CMF RESISTOR	200Ω,1/16W
		R1025	NRVA63D-151X	CMF RESISTOR	150Ω,1/16W
		R1026	NRSA63J-152X	MG RESISTOR	1.5kΩ,1/16W
		R1027	NRVA63D-822X	CMF RESISTOR	8.2kΩ,1/16W
		R1028	NRVA63D-222X	CMF RESISTOR	2.2kΩ,1/16W
		R1029	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
		R1030	NRSA63J-561X	MG RESISTOR	560Ω,1/16W
		R1031	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R1032	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R1033	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R1034	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R1035	NRSA63J-272X	MG RESISTOR	2.7kΩ,1/16W
		R1036	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
		R1037	NRSA63J-471X	MG RESISTOR	470Ω,1/16W
		R1039	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1041	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R1042	NRSA63J-101X	MG RESISTOR	100Ω,1/16W
		R1060	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1061	NRSA63D-392X	MG RESISTOR	3.9kΩ,1/16W
		R1062	NRSA63D-392X	MG RESISTOR	3.9kΩ,1/16W
		R1063	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R1064	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R1065	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R1066	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1067	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1068	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1069	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1070	NRSA63J-470X	MG RESISTOR	47Ω,1/16W
		R1201	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1202	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1205	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1401	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1402	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R1403	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1404	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1405	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1406	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1407	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1409	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1410	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1411	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1412	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1413	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1414	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1415	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1416	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1417	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1419	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1421	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1423	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		R1424	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1425	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1426	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1427	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1428	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1429	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1601	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1606	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1608	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1609	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1610	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1611	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1612	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R1613	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1614	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1615	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1619	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1620	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1621	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1622	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1623	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1624	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1626	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1627	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1628	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1701	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1706	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1708	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1709	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1710	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1711	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1712	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R1713	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1714	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1715	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1719	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1720	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1721	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1722	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1723	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1724	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1726	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1727	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1728	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1801	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
		R1802	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
		R1803	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
		R1804	NRSA63J-182X	MG RESISTOR	1.8kΩ,1/16W
		R1805	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1806	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1807	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1808	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1809	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
		R1810	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
		R1811	NRSA63J-102X	MG RESISTOR	1kΩ,1/16W
		R1813	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1814	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1815	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1816	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1817	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1818	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1819	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1820	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1821	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R1822	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R1823	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1824	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1825	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1826	NRSA63J-103X	MG RESISTOR	10kΩ,1/16W
		R1827	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R1828	NRSA63J-472X	MG RESISTOR	4.7kΩ,1/16W
		R1829	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R1830	NRSA63J-221X	MG RESISTOR	220Ω,1/16W
		R1831	NRSA63J-331X	MG RESISTOR	330Ω,1/16W
		R1832	NRSA63J-100X	MG RESISTOR	10Ω,1/16W
		R1840	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1841	NRSA63J-104X	MG RESISTOR	100kΩ,1/16W
		R1842	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		R1843	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		RA1	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA201	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA202	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA203	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA204	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA205	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA206	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA207	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA208	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA209	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA210	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA601	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA602	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA603	NRZ0040-472X	NETWORK RESISTOR	4.7kΩ
		RA604	NRZ0040-472X	NETWORK RESISTOR	4.7kΩ
		RA605	NRZ0040-472X	NETWORK RESISTOR	4.7kΩ
		RA606	NRZ0040-472X	NETWORK RESISTOR	4.7kΩ
		RA607	NRZ0040-472X	NETWORK RESISTOR	4.7kΩ
		RA608	NRZ0040-472X	NETWORK RESISTOR	4.7kΩ
		RA609	NRZ0040-472X	NETWORK RESISTOR	4.7kΩ
		RA610	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA611	NRZ0040-0R0X	NETWORK RESISTOR	0Ω
		RA612	NRZ0040-472X	NETWORK RESISTOR	4.7kΩ
		RA613	NRZ0040-472X	NETWORK RESISTOR	4.7kΩ
		RA1001	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA1003	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA1004	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA1401	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA1402	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA1403	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA1404	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA1601	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA1602	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA1603	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA1701	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA1702	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		RA1703	NRZ0040-103X	NETWORK RESISTOR	10kΩ
		B202	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B203	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B207	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B208	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B209	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B210	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		B211	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B213	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B214	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B401	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B402	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B808	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B809	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B810	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B821	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B823	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B825	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B1006	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B1007	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B1008	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B1009	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B1010	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B1401	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		B1402	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		C1	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C2	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C3	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C4	NDC31HJ-100X	CAPACITOR	10pF,50V
		C5	NDC31HJ-100X	CAPACITOR	10pF,50V
		C6	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C7	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C8	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C9	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C10	NCB31HK-472X	CAPACITOR	0.0047μF,50V
		C12	NDC31HJ-101X	CAPACITOR	100pF,50V
		C13	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C14	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C15	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C16	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C17	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C18	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C19	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C21	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C23	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C24	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C25	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C26	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C27	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C28	NDC31HJ-470X	CAPACITOR	47pF,50V
		C29	NDC31HJ-470X	CAPACITOR	47pF,50V
		C30	NDC31HJ-470X	CAPACITOR	47pF,50V
		C31	NDC31HJ-470X	CAPACITOR	47pF,50V
		C32	NDC31HJ-470X	CAPACITOR	47pF,50V
		C33	NDC31HJ-470X	CAPACITOR	47pF,50V
		C34	NDC31HJ-470X	CAPACITOR	47pF,50V
		C35	NDC31HJ-470X	CAPACITOR	47pF,50V
		C36	NDC31HJ-470X	CAPACITOR	47pF,50V
		C37	NDC31HJ-470X	CAPACITOR	47pF,50V
		C38	NDC31HJ-470X	CAPACITOR	47pF,50V
		C39	NDC31HJ-470X	CAPACITOR	47pF,50V
		C40	NDC31HJ-470X	CAPACITOR	47pF,50V
		C41	NDC31HJ-470X	CAPACITOR	47pF,50V
		C46	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C47	NCB30JK-105X	CAPACITOR	1μF,6.3V
		C201	NEA70JM-476X	E CAPACITOR	47μF,6.3V
		C202	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C203	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C204	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C205	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C206	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C207	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C208	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C209	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C210	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C211	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C212	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C213	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C214	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C215	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C216	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C217	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C218	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C219	NDC31HJ-100X	CAPACITOR	10pF,50V
		C220	NCF31AZ-105X	CAPACITOR	1μF,10V
		C221	NDC31HJ-100X	CAPACITOR	10pF,50V
		C222	NDC31HJ-120X	CAPACITOR	12pF,50V
		C223	NDC31HJ-120X	CAPACITOR	12pF,50V
		C224	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C225	NCF31AZ-105X	CAPACITOR	1μF,10V
		C226	NCB31HK-102X	CAPACITOR	0.001μF,50V
		C227	NCB31HK-103X	CAPACITOR	0.01μF,50V
		C228	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C229	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C230	NDC31HJ-4R0X	CAPACITOR	4pF,50V
		C232	NCB31HK-102X	CAPACITOR	0.001μF,50V
		C233	NCF31AZ-105X	CAPACITOR	1μF,10V
		C234	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C235	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C236	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C237	NCB31CK-473X	CAPACITOR	0.047μF,16V
		C238	NDC31HJ-101X	CAPACITOR	100pF,50V
		C239	NDC31HJ-120X	CAPACITOR	12pF,50V
		C240	NDC31HJ-120X	CAPACITOR	12pF,50V
		C241	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C242	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C243	NDC31HJ-271X	CAPACITOR	270pF,50V
		C244	NCF31AZ-105X	CAPACITOR	1μF,10V
		C245	NDC31HJ-271X	CAPACITOR	270pF,50V
		C246	NCF31AZ-105X	CAPACITOR	1μF,10V
		C247	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C248	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C249	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C250	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C254	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C255	NDC31HJ-100X	CAPACITOR	10pF,50V
		C256	NDC31HJ-100X	CAPACITOR	10pF,50V
		C257	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C258	NBE20JM-226X	T CAPACITOR	22μF,6.3V
		C404	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C407	NEA70JM-476X	E CAPACITOR	47μF,6.3V
		C408	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C409	NCB21CK-105X	CAPACITOR	1μF,16V
		C410	NEA70JM-476X	E CAPACITOR	47μF,6.3V
		C411	NCB31EK-103X	CAPACITOR	0.01μF,25V
		C412	NCB31CK-104X	CAPACITOR	0.1μF,16V
		C413	NDC31HJ-150X	CAPACITOR	15pF,50V
		C414	NCB31EK-153X	CAPACITOR	0.015μF,25V
		C415	NCF31AZ-105X	CAPACITOR	1μF,10V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C416	NCB31CK-104X	CAPACITOR	0.1µF,16V
C417	NEA71CM-476X	E CAPACITOR	47µF,16V
C422	NCB31CK-104X	CAPACITOR	0.1µF,16V
C425	NEA70JM-476X	E CAPACITOR	47µF,6.3V
C426	NCB21CK-105X	CAPACITOR	1µF,16V
C427	NEA70JM-476X	E CAPACITOR	47µF,6.3V
C428	NCB31EK-103X	CAPACITOR	0.01µF,25V
C429	NCB31CK-104X	CAPACITOR	0.1µF,16V
C430	NDC31HJ-150X	CAPACITOR	15pF,50V
C431	NCB31EK-153X	CAPACITOR	0.015µF,25V
C432	NCF31AZ-105X	CAPACITOR	1µF,10V
C433	NCB31CK-104X	CAPACITOR	0.1µF,16V
C434	NEA71CM-476X	E CAPACITOR	47µF,16V
C436	NCB31CK-104X	CAPACITOR	0.1µF,16V
C437	NBE20JM-226X	T CAPACITOR	22µF,6.3V
C438	NCB31EK-103X	CAPACITOR	0.01µF,25V
C439	NCB31CK-104X	CAPACITOR	0.1µF,16V
C441	NCB31EK-103X	CAPACITOR	0.01µF,25V
C442	NEA71CM-476X	E CAPACITOR	47µF,16V
C443	NCB31EK-103X	CAPACITOR	0.01µF,25V
C444	NCB21EK-104X	CAPACITOR	0.1µF,25V
C446	NCB31CK-104X	CAPACITOR	0.1µF,16V
C447	NBE20JM-226X	T CAPACITOR	22µF,6.3V
C448	NCB31EK-103X	CAPACITOR	0.01µF,25V
C449	NCB31CK-104X	CAPACITOR	0.1µF,16V
C451	NEA71CM-476X	E CAPACITOR	47µF,16V
C452	NCB31EK-103X	CAPACITOR	0.01µF,25V
C453	NCB21EK-104X	CAPACITOR	0.1µF,25V
C601	NCB31CK-104X	CAPACITOR	0.1µF,16V
C602	NBE20JM-226X	T CAPACITOR	22µF,6.3V
C603	NBE20JM-226X	T CAPACITOR	22µF,6.3V
C604	NCB31CK-104X	CAPACITOR	0.1µF,16V
C605	NBE20JM-226X	T CAPACITOR	22µF,6.3V
C606	NBE20JM-226X	T CAPACITOR	22µF,6.3V
C607	NCB31CK-104X	CAPACITOR	0.1µF,16V
C608	NCB31CK-104X	CAPACITOR	0.1µF,16V
C609	NCB31CK-104X	CAPACITOR	0.1µF,16V
C610	NCB31CK-104X	CAPACITOR	0.1µF,16V
C611	NCB31CK-104X	CAPACITOR	0.1µF,16V
C612	NCB31CK-104X	CAPACITOR	0.1µF,16V
C613	NCB31CK-104X	CAPACITOR	0.1µF,16V
C614	NCB31CK-104X	CAPACITOR	0.1µF,16V
C615	NCB31CK-104X	CAPACITOR	0.1µF,16V
C616	NCB31CK-104X	CAPACITOR	0.1µF,16V
C617	NCB31CK-104X	CAPACITOR	0.1µF,16V
C618	NCB31CK-104X	CAPACITOR	0.1µF,16V
C619	NCB31CK-104X	CAPACITOR	0.1µF,16V
C620	NCB31CK-104X	CAPACITOR	0.1µF,16V
C621	NCB31CK-104X	CAPACITOR	0.1µF,16V
C622	NCB31CK-104X	CAPACITOR	0.1µF,16V
C623	NCB31CK-104X	CAPACITOR	0.1µF,16V
C624	NCB31CK-104X	CAPACITOR	0.1µF,16V
C625	NCB31CK-104X	CAPACITOR	0.1µF,16V
C626	NCB31CK-104X	CAPACITOR	0.1µF,16V
C627	NCB31CK-104X	CAPACITOR	0.1µF,16V
C628	NCB31CK-104X	CAPACITOR	0.1µF,16V
C629	NDC31HJ-100X	CAPACITOR	10pF,50V
C630	NDC31HJ-100X	CAPACITOR	10pF,50V
C631	NCB31CK-104X	CAPACITOR	0.1µF,16V
C635	NDC31HJ-470X	CAPACITOR	47pF,50V
C636	NDC31HJ-470X	CAPACITOR	47pF,50V

# ⚠ REF No.	PART No.	PART NAME, DESCRIPTION	
C637	NDC31HJ-470X	CAPACITOR	47pF,50V
C638	NDC31HJ-470X	CAPACITOR	47pF,50V
C639	NDC31HJ-470X	CAPACITOR	47pF,50V
C640	NDC31HJ-470X	CAPACITOR	47pF,50V
C641	NDC31HJ-470X	CAPACITOR	47pF,50V
C642	NDC31HJ-470X	CAPACITOR	47pF,50V
C643	NDC31HJ-470X	CAPACITOR	47pF,50V
C644	NDC31HJ-470X	CAPACITOR	47pF,50V
C645	NDC31HJ-470X	CAPACITOR	47pF,50V
C646	NDC31HJ-470X	CAPACITOR	47pF,50V
C647	NDC31HJ-470X	CAPACITOR	47pF,50V
C648	NDC31HJ-470X	CAPACITOR	47pF,50V
C649	NDC31HJ-470X	CAPACITOR	47pF,50V
C650	NDC31HJ-470X	CAPACITOR	47pF,50V
C651	NDC31HJ-470X	CAPACITOR	47pF,50V
C652	NDC31HJ-470X	CAPACITOR	47pF,50V
C653	NDC31HJ-470X	CAPACITOR	47pF,50V
C654	NCB31CK-104X	CAPACITOR	0.1µF,16V
C655	NCB31EK-103X	CAPACITOR	0.01µF,25V
C656	NCB31CK-104X	CAPACITOR	0.1µF,16V
C657	NCB31EK-103X	CAPACITOR	0.01µF,25V
C658	NCB31CK-104X	CAPACITOR	0.1µF,16V
C659	NCB31EK-103X	CAPACITOR	0.01µF,25V
C660	NCB31CK-104X	CAPACITOR	0.1µF,16V
C661	NCB31EK-103X	CAPACITOR	0.01µF,25V
C662	NBSH0GM-477X	OS E CAPACITOR	470µF,4V
C801	NEA71CM-476X	E CAPACITOR	47µF,16V
C802	NEA70JM-107X	E CAPACITOR	100µF,6.3V
C803	NEA71CM-476X	E CAPACITOR	47µF,16V
C805	NBE20JM-226X	T CAPACITOR	22µF,6.3V
C806	NBE20JM-226X	T CAPACITOR	22µF,6.3V
C807	NEA70JM-476X	E CAPACITOR	47µF,6.3V
C808	NBE40JM-476X	T CAPACITOR	47µF,6.3V
C809	NBE40JM-476X	T CAPACITOR	47µF,6.3V
C810	NBE40JM-476X	T CAPACITOR	47µF,6.3V
C811	NBE40JM-476X	T CAPACITOR	47µF,6.3V
C812	NEA71CM-476X	E CAPACITOR	47µF,16V
C813	NEA70JM-226X	E CAPACITOR	22µF,6.3V
C814	NEA71CM-476X	E CAPACITOR	47µF,16V
C815	NEA70JM-107X	E CAPACITOR	100µF,6.3V
C821	NCB31CK-104X	CAPACITOR	0.1µF,16V
C822	NCB31CK-104X	CAPACITOR	0.1µF,16V
C823	NCB31CK-104X	CAPACITOR	0.1µF,16V
C824	NCB31CK-104X	CAPACITOR	0.1µF,16V
C825	NCB31CK-104X	CAPACITOR	0.1µF,16V
C826	NCB31CK-104X	CAPACITOR	0.1µF,16V
C827	NCB31CK-104X	CAPACITOR	0.1µF,16V
C828	NCB31CK-104X	CAPACITOR	0.1µF,16V
C829	NCB31CK-104X	CAPACITOR	0.1µF,16V
C830	NCB31CK-104X	CAPACITOR	0.1µF,16V
C832	NCB31CK-104X	CAPACITOR	0.1µF,16V
C834	NCB31CK-104X	CAPACITOR	0.1µF,16V
C836	NCB31CK-104X	CAPACITOR	0.1µF,16V
C838	NCB31CK-104X	CAPACITOR	0.1µF,16V
C840	NCB20JM-475X	CAPACITOR	4.7µF,6.3V
C841	NCB31CK-104X	CAPACITOR	0.1µF,16V
C842	NCB31EK-103X	CAPACITOR	0.01µF,25V
C843	NCB31EK-103X	CAPACITOR	0.01µF,25V
C846	NCB31CK-104X	CAPACITOR	0.1µF,16V
C847	NCB31CK-104X	CAPACITOR	0.1µF,16V
C848	NDC31HJ-680X	CAPACITOR	68pF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C851	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C855	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C856	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C857	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C878	NCF31AZ-105X	CAPACITOR	1µF,10V
		C879	NCF31AZ-105X	CAPACITOR	1µF,10V
		C880	NCF31AZ-105X	CAPACITOR	1µF,10V
		C881	NCF31AZ-105X	CAPACITOR	1µF,10V
		C882	NCF31AZ-105X	CAPACITOR	1µF,10V
		C883	NCF31AZ-105X	CAPACITOR	1µF,10V
		C886	NCB21CK-105X	CAPACITOR	1µF,16V
		C891	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C893	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1001	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1002	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1003	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1004	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1005	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1006	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1007	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C1008	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1009	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1010	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1011	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1012	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C1013	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1014	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C1015	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1016	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C1017	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1018	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C1019	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1020	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1021	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1022	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1023	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1024	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1025	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1026	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1027	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1028	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1030	NCB31EK-223X	CAPACITOR	0.022µF,25V
		C1031	NCB31HK-222X	CAPACITOR	0.0022µF,50V
		C1032	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1033	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1034	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1035	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1036	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1037	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1038	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1039	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1040	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1041	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1059	QETJ0JM-477	E CAPACITOR	470µF,6.3V
		C1060	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1062	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C1063	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1064	NBSH0GM-477X	OS E CAPACITOR	470µF,4V
		C1201	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1202	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C1203	NCB31CK-104X	CAPACITOR	0.1µF,16V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C1206	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1207	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1401	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C1402	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1403	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1404	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1405	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1407	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1408	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1409	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1410	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1411	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1413	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1414	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1601	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1602	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1604	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1605	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1607	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1609	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1611	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1612	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1614	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1615	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1701	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1702	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1704	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1705	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1707	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1709	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1711	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1712	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1714	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1715	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1801	NEA71CM-106X	E CAPACITOR	10µF,16V
		C1802	NEA71CM-106X	E CAPACITOR	10µF,16V
		C1803	NCB21HK-222X	CAPACITOR	0.0022µF,50V
		C1804	NCB21HK-222X	CAPACITOR	0.0022µF,50V
		C1805	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1806	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1807	NBE20JM-475X	T CAPACITOR	4.7µF,6.3V
		C1808	NBE20JM-475X	T CAPACITOR	4.7µF,6.3V
		C1809	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1810	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1811	NEA71CM-226X	E CAPACITOR	22µF,16V
		C1812	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1813	NBE20JM-226X	T CAPACITOR	22µF,6.3V
		C1814	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1815	NBE20JM-475X	T CAPACITOR	4.7µF,6.3V
		C1816	NEA71CM-106X	E CAPACITOR	10µF,16V
		C1817	NEA71CM-106X	E CAPACITOR	10µF,16V
		C1818	NEA70JM-476X	E CAPACITOR	47µF,6.3V
		C1819	NEA71CM-476X	E CAPACITOR	47µF,16V
		C1822	NDC31HJ-101X	CAPACITOR	100pF,50V
		C1823	NDC31HJ-101X	CAPACITOR	100pF,50V
		C1824	NDC31HJ-101X	CAPACITOR	100pF,50V
		C1825	NDC31HJ-101X	CAPACITOR	100pF,50V
		C1828	NDC31HJ-471X	CAPACITOR	470pF,50V
		C1829	NDC31HJ-471X	CAPACITOR	470pF,50V
		C1830	NDC31HJ-101X	CAPACITOR	100pF,50V
		C1831	NDC31HJ-101X	CAPACITOR	100pF,50V

#	⚠	REF No.	PART No.	PART NAME, DESCRIPTION	
		C1832	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1833	NCB31CK-104X	CAPACITOR	0.1µF,16V
		C1838	NCB31HK-102X	CAPACITOR	0.001µF,50V
		C1842	NCB31CK-104X	CAPACITOR	0.1µF,16V
		L201	NQL144K-100X	COIL	10µH
		L202	NQR0444-001X	COIL	
		L203	NQR0444-001X	COIL	
		L401	NQL144K-100X	COIL	10µH
		L402	NQL144K-100X	COIL	10µH
		L403	NQL024J-8R2X	COIL	8.2µH
		L404	NQL144K-100X	COIL	10µH
		L405	NQL144K-100X	COIL	10µH
		L406	NQL144K-100X	COIL	10µH
		L407	NQL024J-8R2X	COIL	8.2µH
		L408	NQL144K-100X	COIL	10µH
		L409	NQL144K-100X	COIL	10µH
		L411	NQL144K-100X	COIL	10µH
		L412	NQL144K-100X	COIL	10µH
		L414	NQL144K-100X	COIL	10µH
		L601	NQL144K-100X	COIL	10µH
		L801	NQL144K-100X	COIL	10µH
		L802	NQL024J-100X	COIL	10µH
		L803	NQL144K-100X	COIL	10µH
		L807	NQL144K-100X	COIL	10µH
		L808	NQL024J-100X	COIL	10µH
		L1001	NQL144K-100X	COIL	10µH
		L1002	NQL144K-100X	COIL	10µH
		L1801	NQL144K-100X	COIL	10µH
		L1802	NQL144K-100X	COIL	10µH
		L1803	NQL144K-100X	COIL	10µH
		LC801	PELN1148-223X	NOISE FILTER	
		LC802	PELN1148-223X	NOISE FILTER	
		LC803	PELN1148-223X	NOISE FILTER	
		LC804	PELN1148-223X	NOISE FILTER	
		LC805	PELN1148-223X	NOISE FILTER	
		LC806	PELN1148-223X	NOISE FILTER	
		LC807	PELN1148-223X	NOISE FILTER	
		LC808	PELN1148-223X	NOISE FILTER	
		X1	NAX0422-001X	CRYSTAL RESONATOR	
		X201	NAX0423-001X	CRYSTAL RESONATOR	
		X202	QAX0541-001	CRYSTAL RESONATOR	
		X203	NAX0336-001X	CRYSTAL RESONATOR	
		X601	NAX0338-001X	CRYSTAL RESONATOR	
		K1	PELN0984-150Y	NOISE FILTER	
		K2	PELN0984-150Y	NOISE FILTER	
		K201	PELN0984-150Y	NOISE FILTER	
		K202	PELN0984-150Y	NOISE FILTER	
		K203	PELN0984-150Y	NOISE FILTER	
		K204	NQR0129-002X	FERRITE BEAD	
		K205	NQR0129-002X	FERRITE BEAD	
		K206	NQR0129-002X	FERRITE BEAD	
		K207	NQR0129-002X	FERRITE BEAD	
		K208	NQR0129-002X	FERRITE BEAD	
		K209	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		K210	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		K211	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		K212	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		K213	NQR0129-002X	FERRITE BEAD	
		K214	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		K215	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		K216	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		K217	NQR0129-002X	FERRITE BEAD	
		K219	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		K220	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		K221	PELN0984-150Y	NOISE FILTER	
		K225	NRSA63J-0R0X	MG RESISTOR	0Ω,1/16W
		K601	NQR0129-002X	FERRITE BEAD	
		K602	PELN0984-150Y	NOISE FILTER	
		K603	NQR0339-001X	FERRITE BEAD	
		K604	NQR0339-001X	FERRITE BEAD	
		K1001	NQR0339-001X	FERRITE BEAD	
		K1002	PELN0984-150Y	NOISE FILTER	
		K1003	NQR0339-001X	FERRITE BEAD	
		K1004	NQR0129-002X	FERRITE BEAD	
		K1005	NQR0129-002X	FERRITE BEAD	
		K1201	PELN0984-150Y	NOISE FILTER	
		K1401	NQR0129-002X	FERRITE BEAD	
		K1402	PELN0984-150Y	NOISE FILTER	
		K1403	PELN0984-150Y	NOISE FILTER	
		K1404	NQR0129-002X	FERRITE BEAD	
		K1601	PELN0984-150Y	NOISE FILTER	
		K1602	PELN0984-150Y	NOISE FILTER	
		K1603	NQR0129-002X	FERRITE BEAD	
		K1701	PELN0984-150Y	NOISE FILTER	
		K1702	PELN0984-150Y	NOISE FILTER	
		K1703	NQR0129-002X	FERRITE BEAD	
		J202	QNZ0486-001	D CONNECTOR	
		OT1	LP40728-001A	SHEET(DIGITAL)	
		OT2	LP40769-001A	SPACER,X3	
		SD1	LP20971-001A	SHIELD FRAME(D-VHS)	
		SD2	LP20972-001A	SHIELD COVER(D-VHS)	
		SD3	LP20973-001A	SHIELD COVER(D-VHS)	
		FL401	NQR0336-001X	LOW PASS FILTER	
		FL402	NQR0336-001X	LOW PASS FILTER	
		FL801	NQR0393-001X	LOW PASS FILTER	
		FL802	NQR0393-001X	LOW PASS FILTER	
		FL803	NQR0393-001X	LOW PASS FILTER	
		FL804	NQR0392-001X	LOW PASS FILTER	
		FL805	NQR0392-001X	LOW PASS FILTER	
		FL806	NQR0392-001X	LOW PASS FILTER	
		FL807	NQR0392-001X	LOW PASS FILTER	
		CN401	QGA2001F2-04V	CONNECTOR,(1-4)D-PRE/REC	
		CN402	QGA2001F2-04V	CONNECTOR,(1-4)D-PRE/REC	
		CN8002	QGF1016F2-16W	FFC/FPC CONNECTOR,(1-16)MAIN	
		CN8003	QGF1016F2-05W	FFC/FPC CONNECTOR,(1-5)	
		CN8201	QGA1201C2-06X	CONNECTOR,(1-6)FRONT 1394	
		CN8801	QGA2001F2-04V	CONNECTOR,(1-4)SUB REG	
		CN8802	QGA2001F2-12V	CONNECTOR,(1-12)SW.REG	
		CN8803	QGF1016F2-09W	FFC/FPC CONNECTOR,(1-9)TERMINAL	
		CN9801	QGF1224F1-12X	FFC/FPC CONNECTOR,(1-12)MAIN	

****

LOADING MOTOR BOARD ASSEMBLY <55>

PW2	LPA10010-01A2	LOADING MOTOR BOARD ASSY
CN1	QGB2533K1-02	CONNECTOR

SECTION 4
CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions
The Components identified by the symbol ⚠ are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

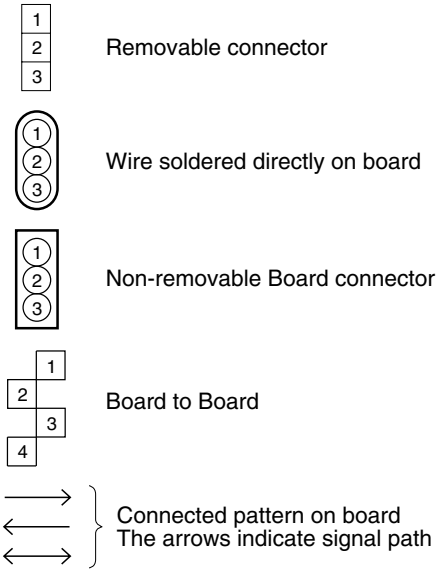
1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).
   Chip resistors are 1/16 W.
   K or k: kΩ (1000Ω), M: MΩ (1000kΩ)
2) All capacitance values are in μF, (P: PF).
3) All inductance values are in μH, (m: mH).
4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

AUX : Active at high

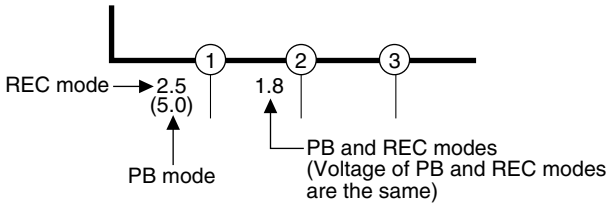
$\overline{\text{AUX}}$ or AUX(L) : Active at low

3. Interpreting Connector indications



4. Voltage measurement

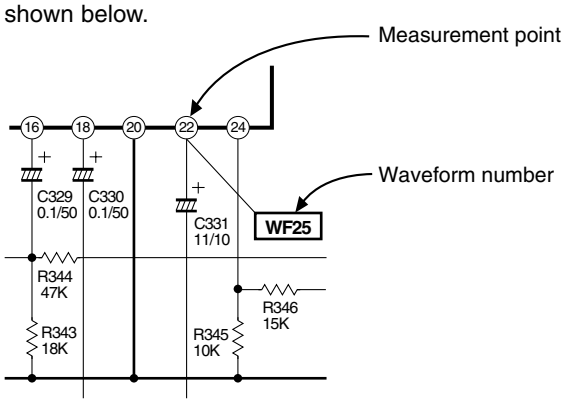
1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
   — : Unmeasurable or unnecessary to measure
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, Normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode
4) Indication on schematic diagram
   Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



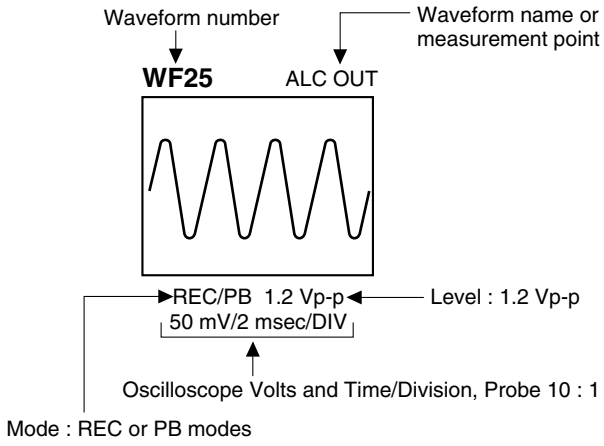
Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits
   REC : Colour bar signal in SP mode, normal VHS mode
   PB : Alignment tape, colour bar SP mode, normal VHS mode
2) Audio circuits
   REC : 1KHz, –8 dBs sine wave signal in SP mode, normal VHS mode
   PB : REC then playback it
3) Movie Camera circuits
   Measured using a correctly illuminated gray scale or colour bar test chatrs in the E-E mode
4) Indication on schematic diagram
   Waveform indications on the schematic diagram are as shown below.



5) Waveform indications



6. Signal path Symbols

The arrows indicate the signal path as follows.

Playback signal path

Playback and recording signal path

Recording signal path
(including E-E signal path)

Capstan servo path

Drum servo path

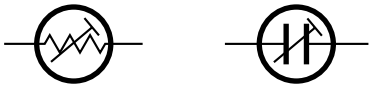
(Example)

R-Y Playback R-Y signal path

Y Recording Y signal path

7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.

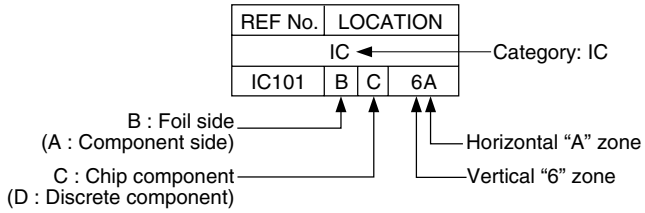
CIRCUIT BOARD NOTES

1. Foil and Component sides

1) Foil side (B side) :
   Parts on the foil side seen from foil face (pattern face) are indicated.
2) Component side (A side) :
   Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

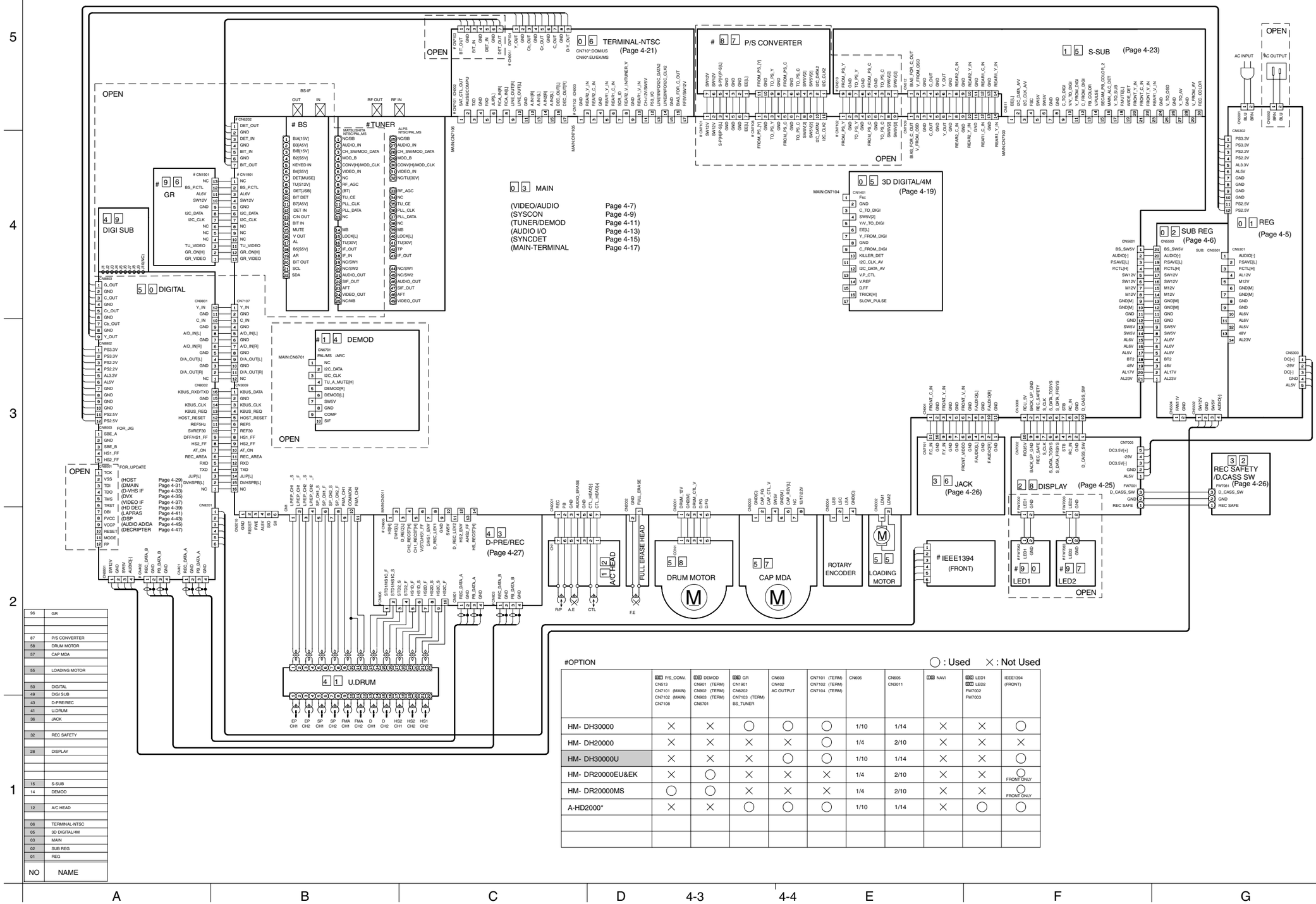
Parts location are indicated by guide scale on the circuit board.



Note:

For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTIONS



96	GR
87	P/S CONVERTER
58	DRUM MOTOR
57	CAP MDA
55	LOADING MOTOR
50	DIGITAL
49	DIGI SUB
43	D-PRE/REC
41	U.DRUM
36	JACK
32	REC SAFETY
28	DISPLAY
15	S-SUB
14	DEMOD
12	A/C HEAD
06	TERMINAL-NTSC
05	3D DIGITAL/4M
03	MAIN
02	SUB REG
01	REG
NO	NAME

#OPTION

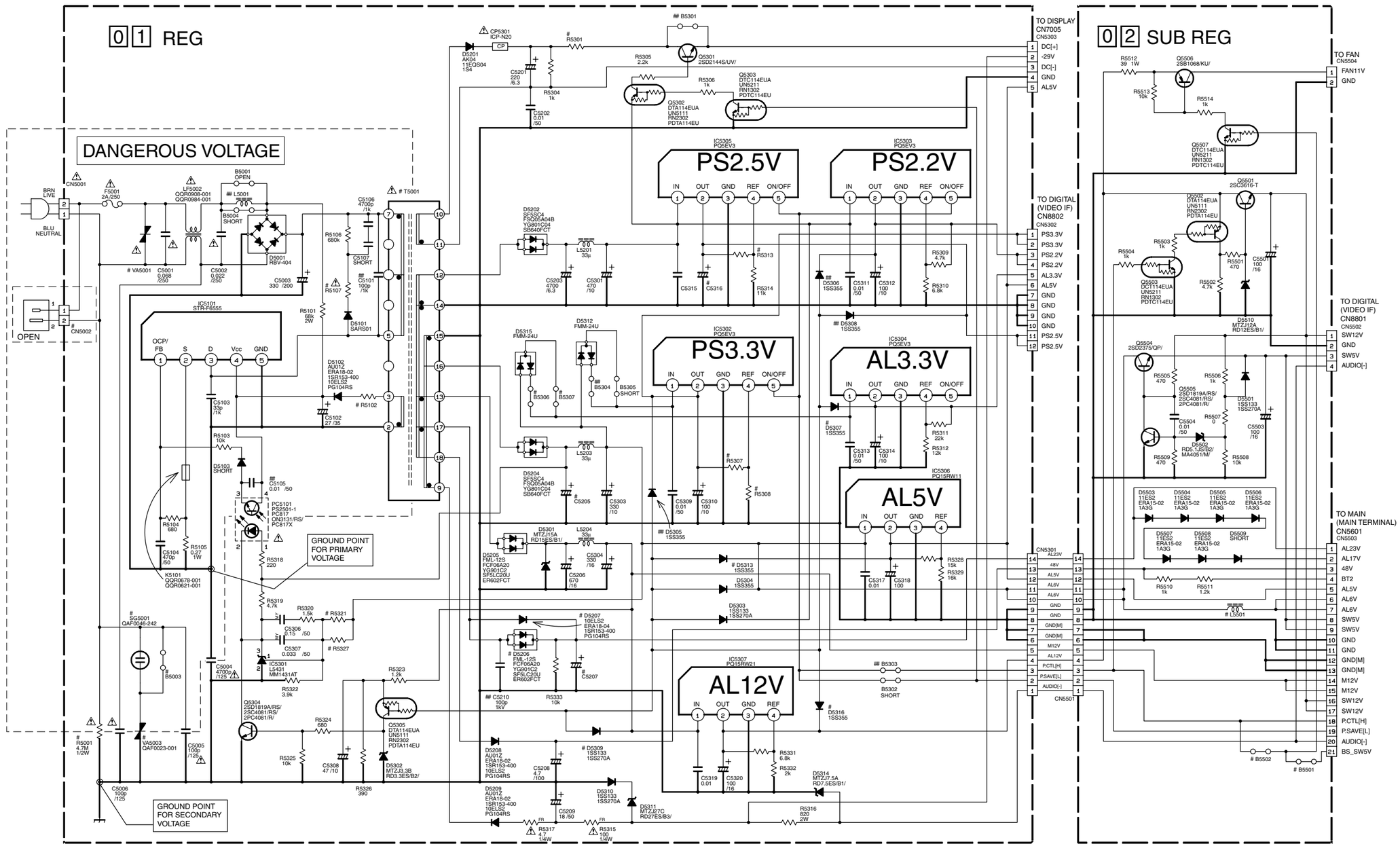
◯ : Used ✕ : Not Used

	[96] P/S_CONV. CN513 CN7101 (MAIN) CN7102 (MAIN) CN7108	[87] DEMOD CN901 (TERM) CN902 (TERM) CN903 (TERM) CN6701	[96] GR CN1901 CN6202 CN7103 (TERM) BS_TUNER	CN603 CN402 AC OUTPUT	CN7101 (TERM) CN7102 (TERM) CN7104 (TERM)	CN606	CN605 CN3011	[14] NAVI	[28] LED1 [28] LED2 FW7002 FW7003	IEEE1394 (FRONT)
HM- DH30000	✕	✕	◯	◯	◯	1/10	1/14	✕	✕	◯
HM- DH20000	✕	✕	✕	✕	◯	1/4	2/10	✕	✕	✕
HM- DH30000U	✕	✕	✕	◯	◯	1/10	1/14	✕	✕	◯
HM- DR20000EU&EK	✕	◯	✕	✕	✕	1/4	2/10	✕	✕	◯ FRONT ONLY
HM- DR20000MS	◯	◯	✕	✕	✕	1/4	2/10	✕	✕	◯ FRONT ONLY
A-HD2000*	✕	✕	◯	◯	◯	1/10	1/14	✕	◯	◯

p10322001a_rev0

4.2 REGULATOR AND SUB REGULATOR SCHEMATIC DIAGRAMS

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



##MARK ELEMENTS ARE NOT MOUNTED

#DIFFERENCE TABLE 1

		B5003	B5306	B5307	B5501	B5502	C5205	C5207	C5316	CN5002	D5206	D5207	D5307 D5309 D5313 D5316	L5501	R5001	R5102	R5107	R5301	R5307	R5308	R5313	R5321	R5327	SG5001	T5001	VA5001	VA5003
JPN	HS	YES	YES	NO	YES	NO	4700 /10	220 /35	100 /10	YES	YES	NO	YES	SHORT	NO	1	47 1/2W	1	13k	6.8k	15k	8.2k	12k	NO	QQS0079-001		NO
	STD	YES	NO	YES	YES	NO	3300 /10	150 /35	330 /10	NO	NO	YES	YES	SHORT	NO	1	47 1/2W	1	5.6k	3k	13k	5.6k	68k	NO	QQS0079-001	QAF0023-431 QAF0024-431 QAF0039-431	NO
US	HS	YES	NO	YES	NO	YES	3300 /10	150 /35	100 /10	NO	NO	YES	NO	0.22μ	YES	56	47 1/4W FR	1.8	13k	6.8k	15k	5.6k	68k	NO	QQS0106-001		NO
	STD	YES	NO	YES	NO	YES	3300 /10	150 /35	330 /10	NO	NO	YES	NO	0.22μ	YES	56	47 1/4W FR	1.8	5.6k	3k	13k	5.6k	68k	NO	QQS0106-001		NO
US(PH)		NO	NO	YES	NO	YES	3300 /10	150 /35	330 /10	NO	NO	YES	NO	0.22μ	YES	56	47 1/4W FR	1.8	5.6k	3k	13k	5.6k	68k	YES	QQS0106-001	QAF0023-431	YES

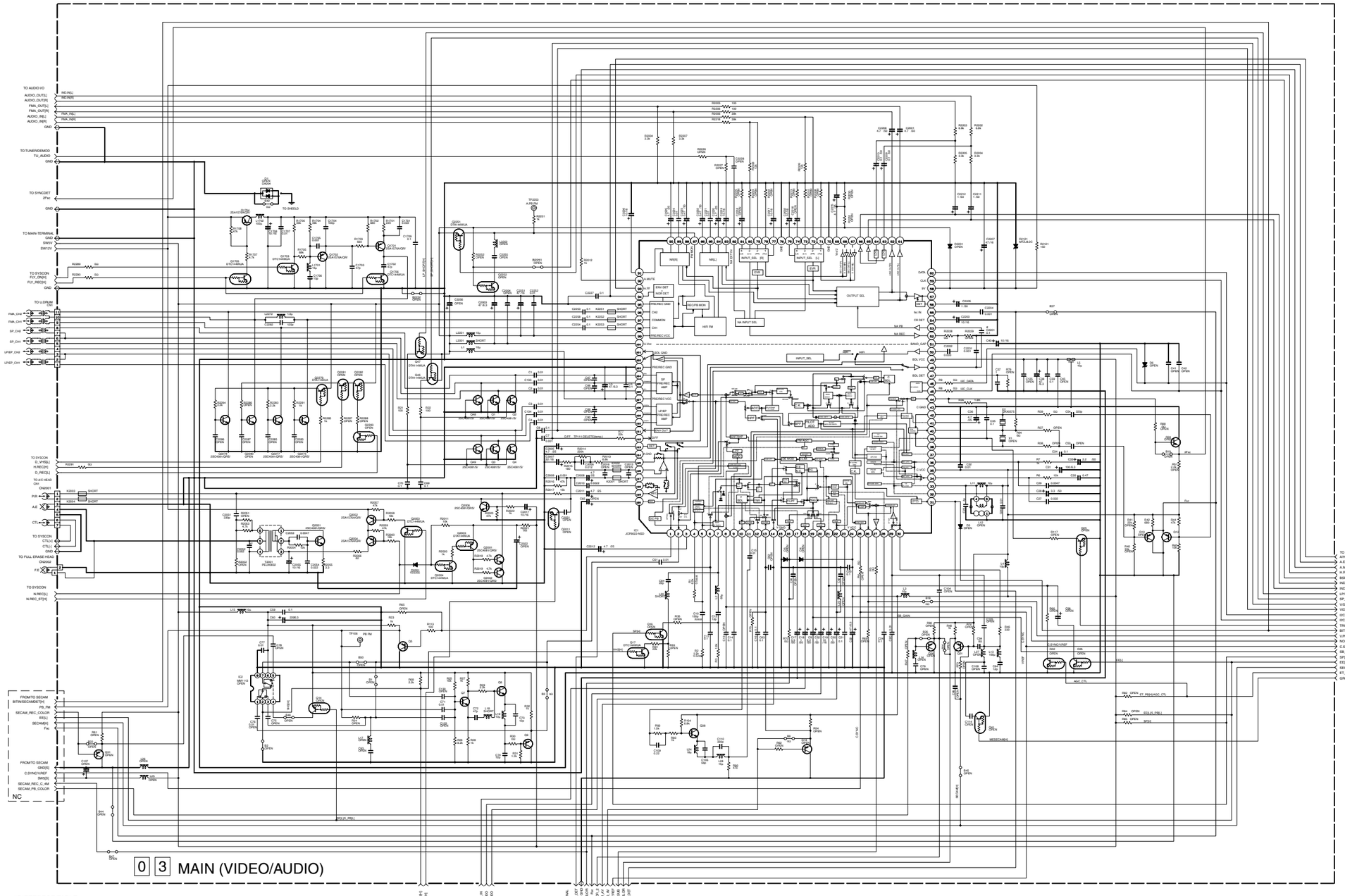
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20196001a_rev1

4.3 MAIN (VIDEO/AUDIO) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



#DIFFERECE TABLE

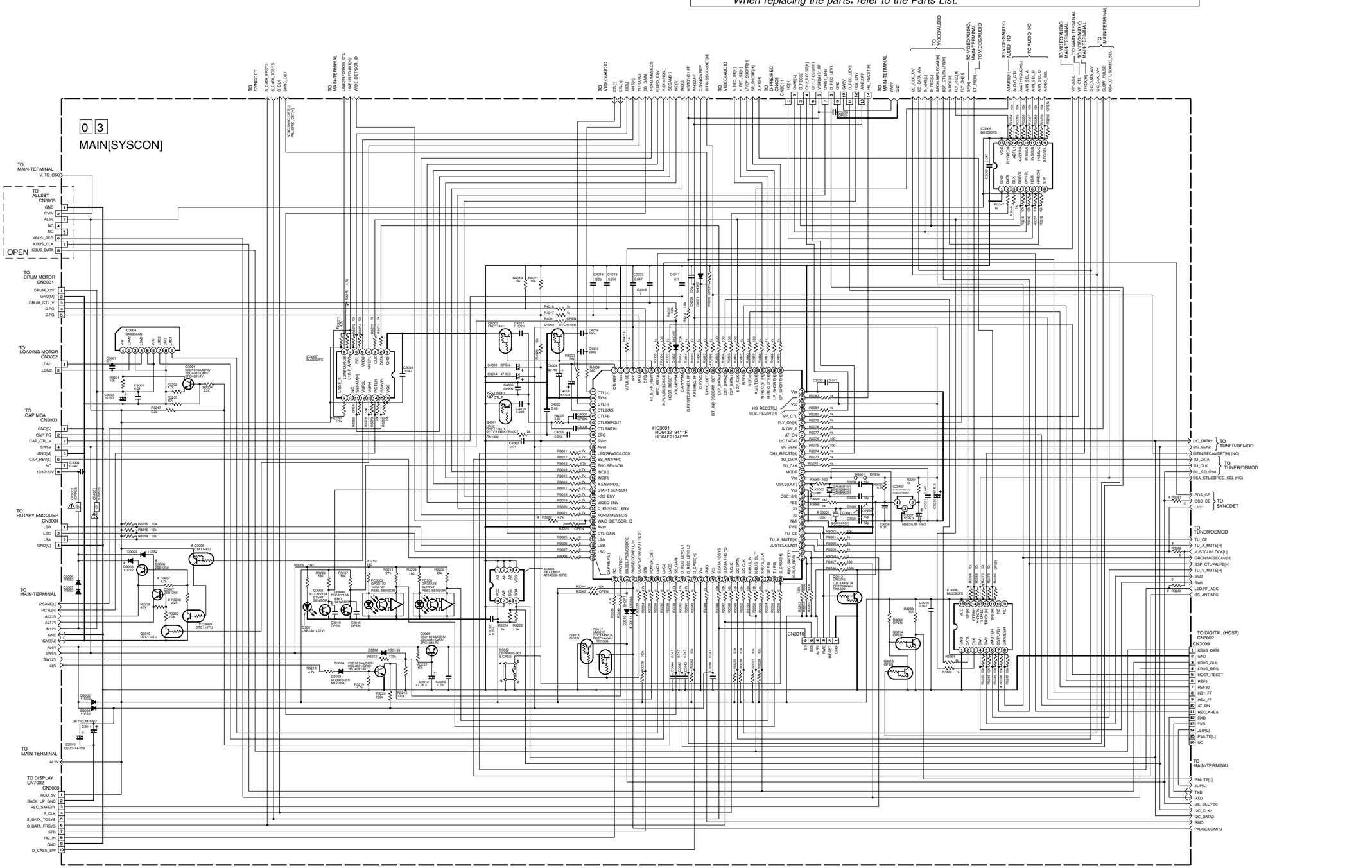
	BS_IN
	CS4
HM-DH30000	○
HM-DH20000	OPEN

○: Used

p10316001a_rev0

4.4 MAIN (SYSCON) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



	R3287 R3104	R3289	R3096 R3370 R3376 R3277 R3281	D3008 R3239 Q3006 Q3008 Q3009 R3237	R3022 R3266 R3288	IC3001	D3011		
DH25000	×	×	×	×	○	HD64321945A20W HD64F2194CP20	×		
DH35000	×	×	○	○	○	HD64321945A28W HD64F2194CP28	○		
DH390000U	×	○	×	○	×	HD64321945X28W HD64F2194CP28	○		

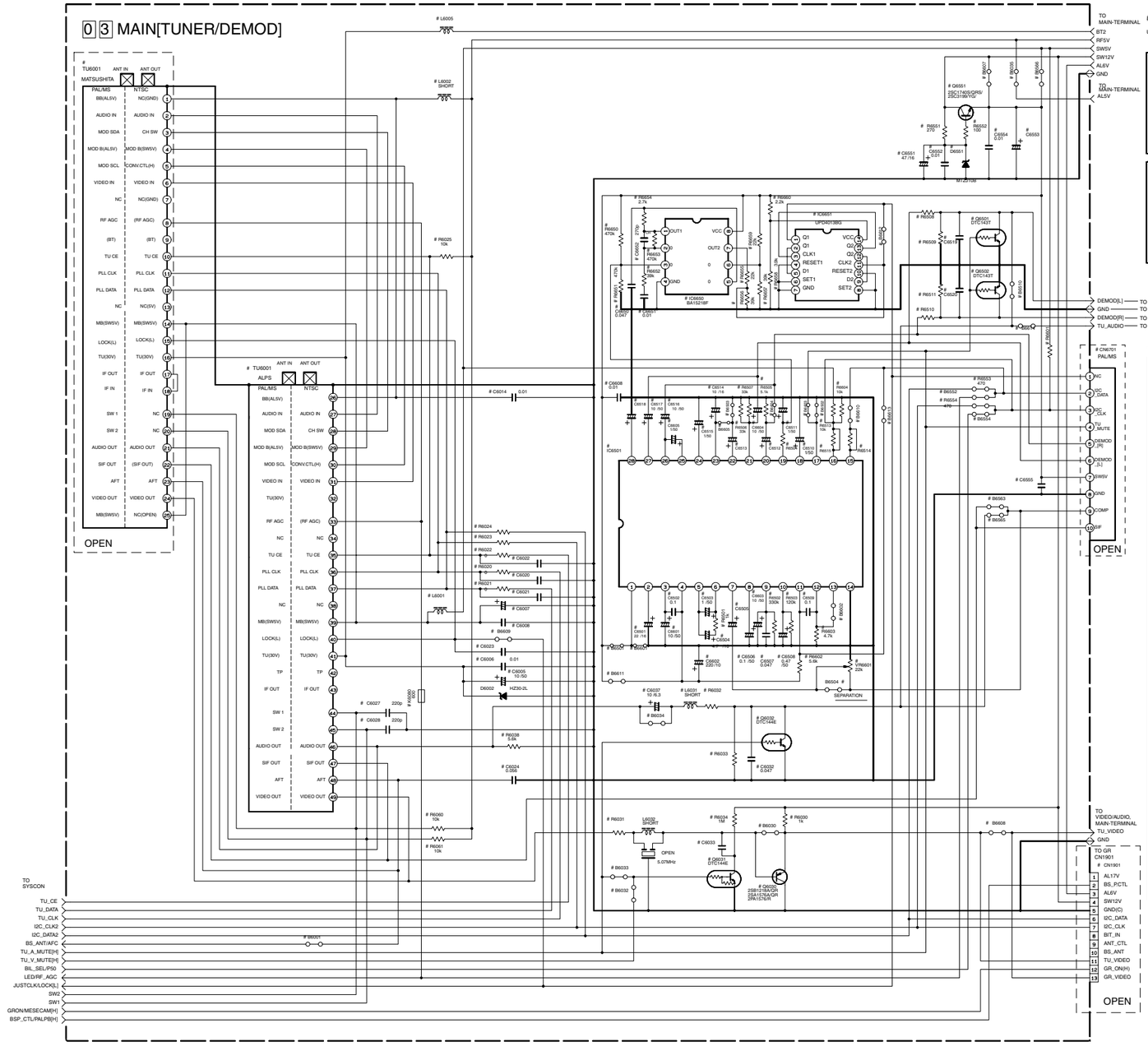
p10382001a_rev0

A B C D E F G H

4-9 4-10

4.5 MAIN (TUNER/DEMOD) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



DIFFERENCE TABLE

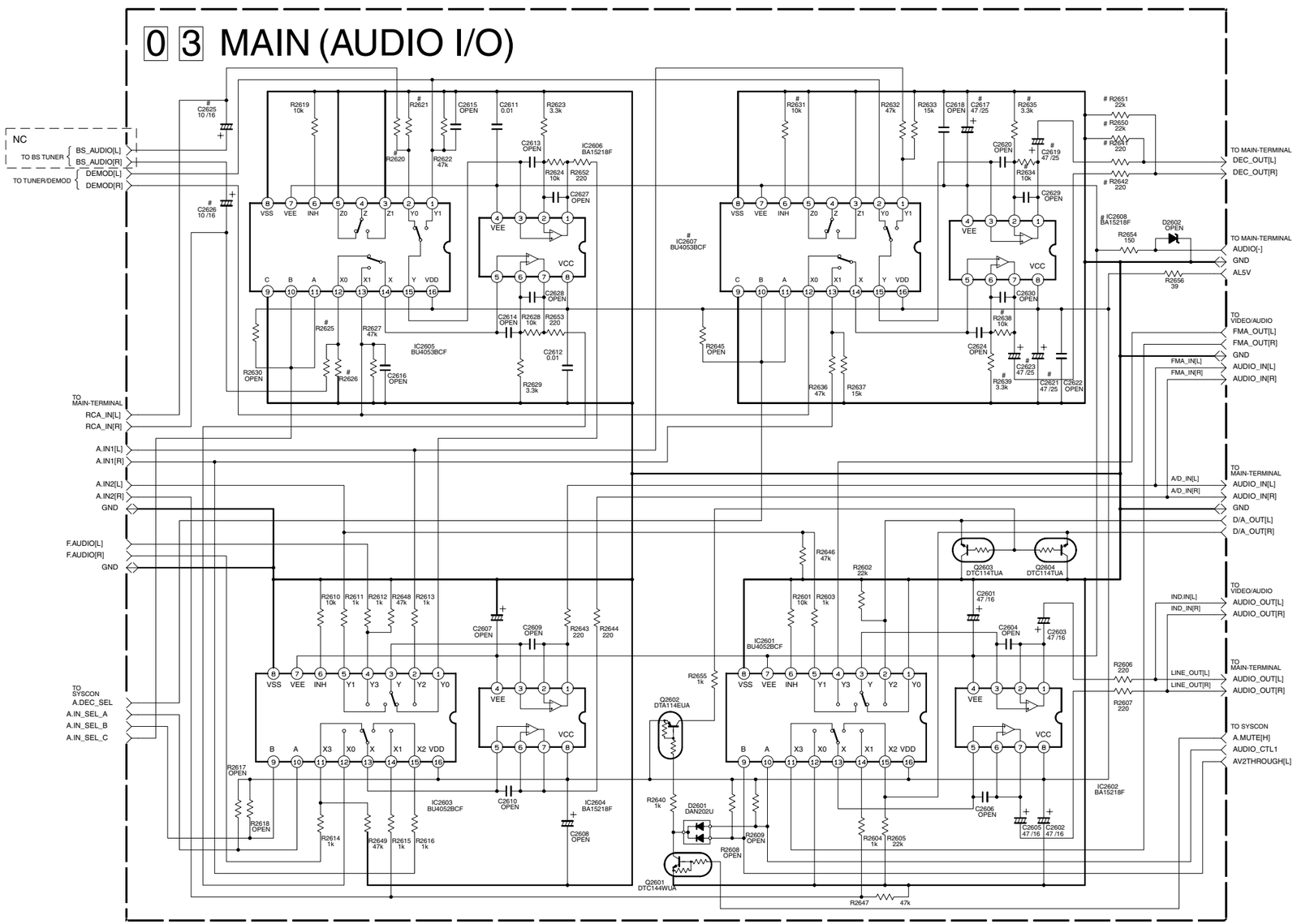
○ : Used × : Not used

TUNER	SYMBOL	JAPAN		US
		DH30000	DH20000	
TUNER	TU6001	MATSUSHITA	MATSUSHITA	ALPS
		CAU0198	CAU0198	CAU0163
ATS+	R6025,B6035	×	×	×
VIDEO BUFFER	K6080	×	×	×
TU_V_MUTE	R6030,Q6030	○	○	×
	B6030	×	×	○
	Q6031	○	○	×
	R6031	1k	1k	0
	R6034	○	○	×
	C6033	0.0047	0.0047	×
	B6032	○	○	×
TU_A_MUTE	Q6032	×	×	×
	B6033	×	×	×
AUDIO OUT	R6032	0	0	12k
	R6033	×	×	12k
	R6038	×	×	×
	C6032	×	×	×
	B6034	○	○	○
	C6037	×	×	×
AFC	B6001	×	×	○
	C6024	×	×	×
CENELEC	C6027,C6028	×	×	×
TU(33V)	C6005	×	×	×
	C6006	×	×	×
	L6005	SHORT	SHORT	SHORT
MB(SW5V)	C6007	1000/6.3	1000/6.3	×
	C6008	×	×	×
	L6001	1	1	SHORT
BB(AL5V)	C6014,L6002	×	×	×
PLL CLK	R6020	1k	1k	1k
	R6023	×	×	×
	C6020	×	×	×
PLL DATA	R6021	1k	1k	1k
	R6024	×	×	×
	C6021	×	×	×
TU CE	R6022	1k	1k	×
	C6022	1M	1M	×
LOCK	C6023	×	×	×
SYSTEM SW	R6060,R6061	×	×	×
GR	B6608	×	○	○
	CN1901	○	×	×

DEMOD	SYMBOL	JAPAN	US
DEMOD PWB ASSY	CN6701	×	×
9V REG	R6551,R6552 Q6551,D6551	○	○
	C6551,C6552	×	×
DEMOD REG PASS CON	C6553	×	×
	C6554	×	×
	C6555	×	×
	C6608	×	×
SW12V	B6607	×	×
DEMOD OUT	R6508 R6510	12k	3.9k
	R6509,R6511	3.3k	1.2k
	C6520 C6519	5600p	×
MUTE	Q6501,Q6502	×	○
TUNER MONO	B6510	×	×
DEMOD SELECTION	R6553,R6554	×	○
	B6552,B6554	○	×
	B6563	×	×
	B6565	○	○
	B6566	×	×
	R6601	×	×
DEMOD IC APPLICATION	IC6501	CXA2020M	uPC1854AGT
	IC6650, IC6651 R6602-R6604 R6650-R6660 C6601-C6605, C6650-C6652 B6601-B6606 B6611,B6613 VR6601,D6650	○	×
	B6612	×	×
	R6501-R6503, R6505-R6507, C6501-C6504, C6506-C6508, C6510,C6511, C6514-C6517, B6501-B6505	×	○
	R6504	0.01 μF	3k
	R6513	○	×
	R6514, R6515	×	×
	C6505	10/50	10/50
	C6509	2.2k	0.1 μF
	C6512,C6518	10/50	1/50
	C6513	1/50	3.3/50
	B6610	×	○
TU AUDIO	B6614	×	×

4.6 MAIN (AUDIO I/O) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



#DIFFERENCE TABLE

○ : Used × : Not used

SYMBOL / MODEL	C2625 C2626	R2620 R2625	R2621 R2626	IC2607 IC2608	R2631 R2638 R2642	R2634 ,R2639 ,R2650	R2635 ,R2641 ,R2651	C2617 C2621	C2619 ,C2623
JPN	○	6.8k	10k	×					
US	×	×	×	×					
EU /EK /MS	×	1k	47k	○					

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

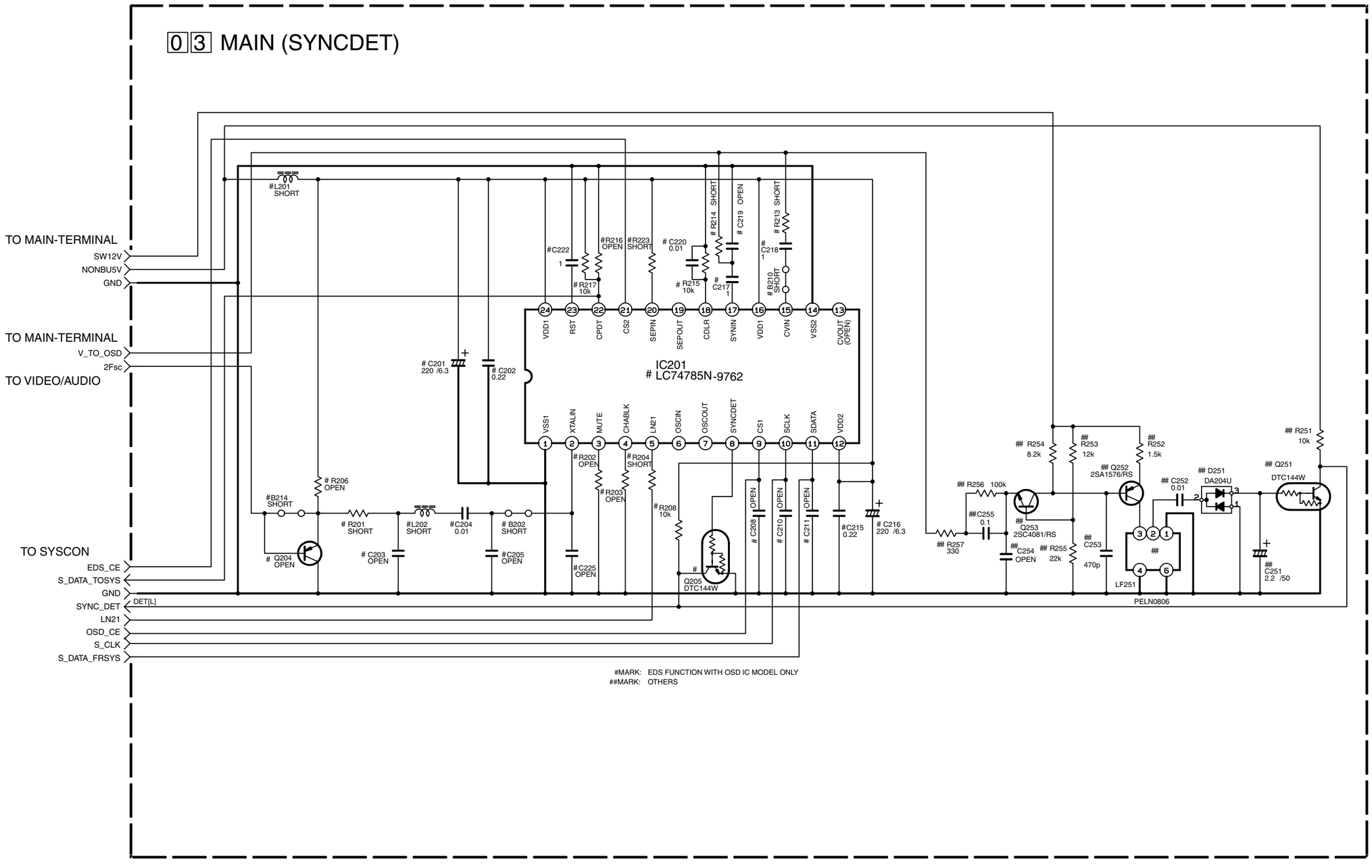
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20194001a_rev0

A B C D 4-13 4-14 E F G H

4.7 MAIN (SYNCDET) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

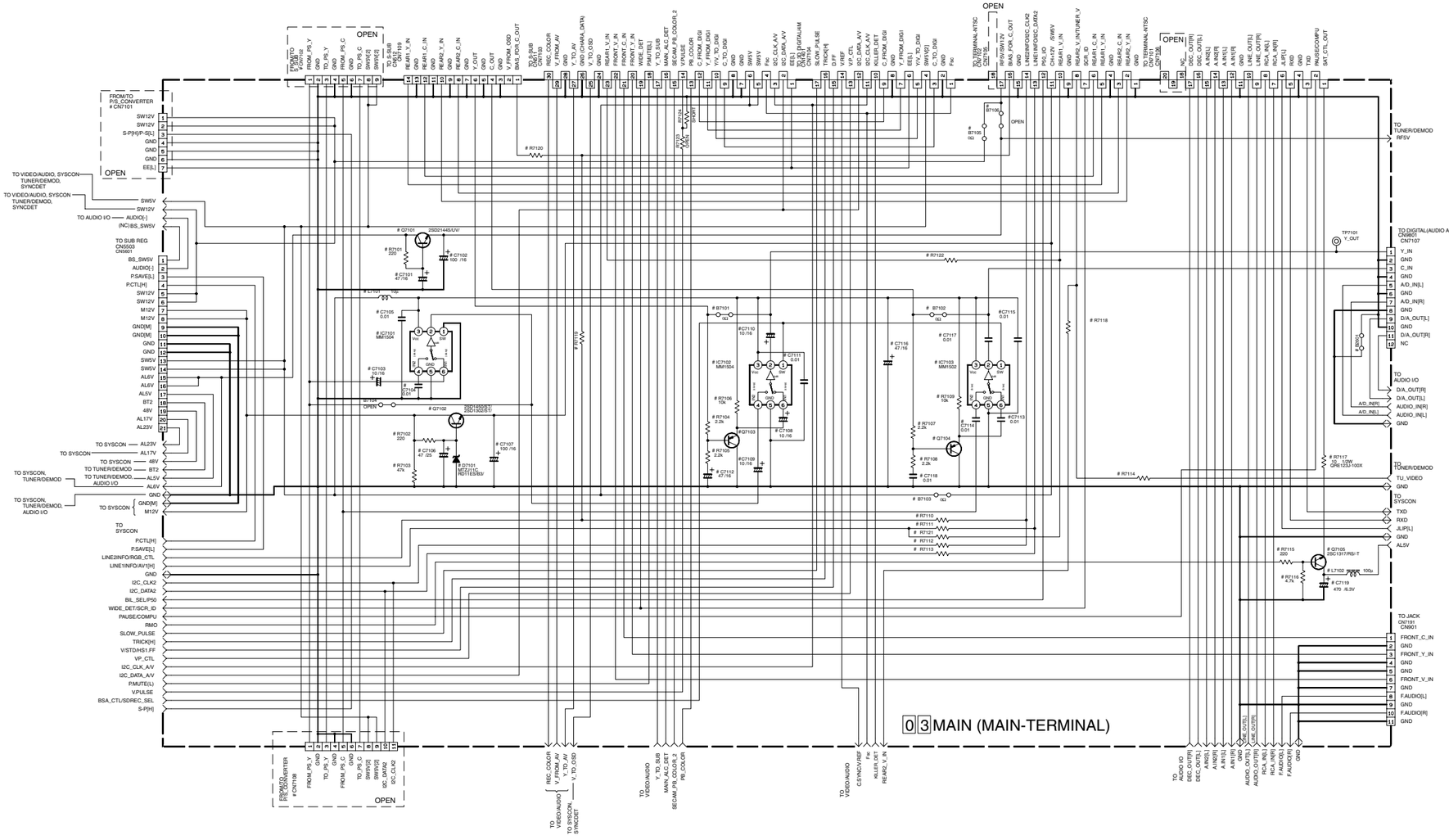
ELECTROLYTIC

CERAMIC

p30093001a_rev0

4.8 MAIN (MAIN-TERMINAL) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



○ : Used × : Not used

OPTION

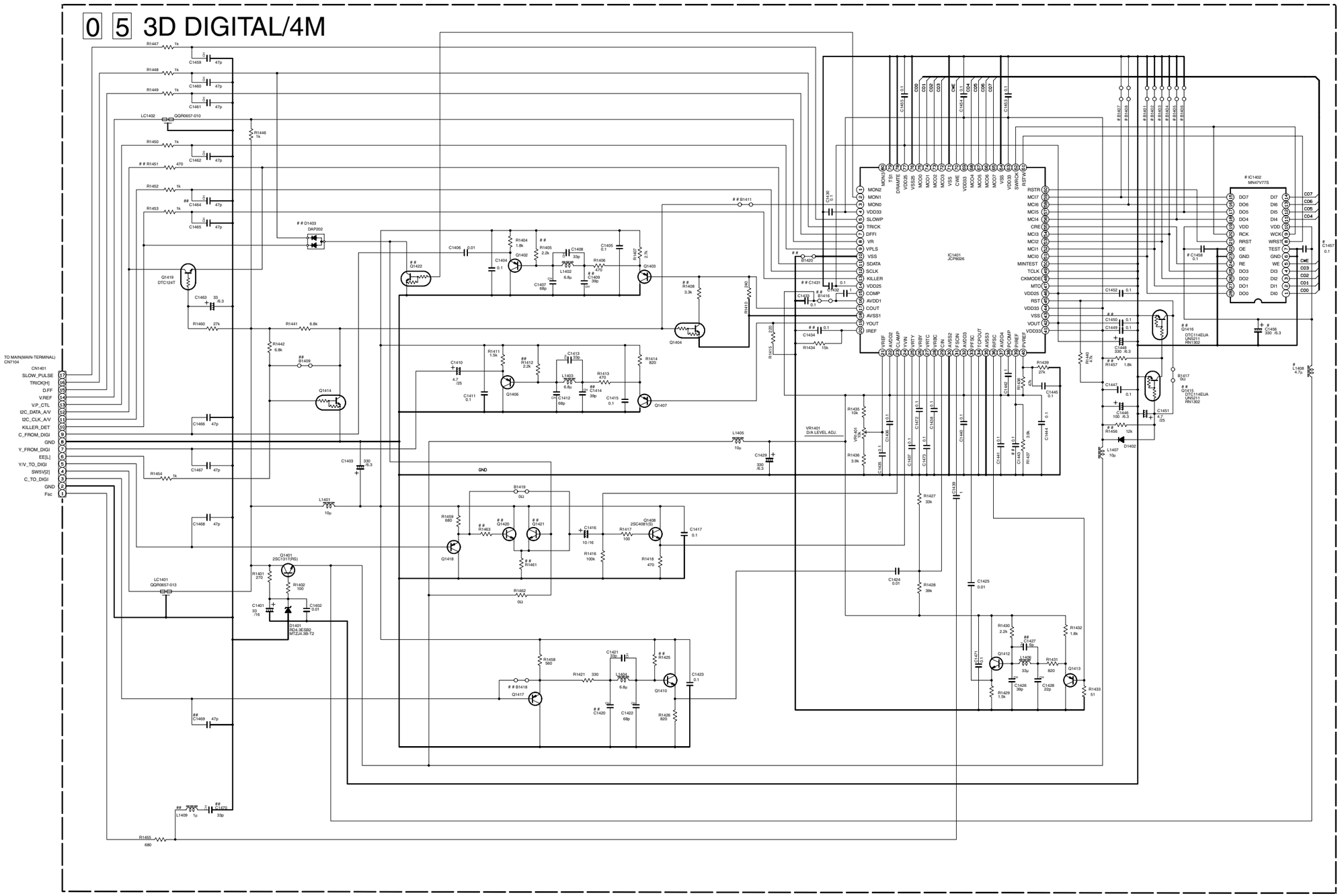
	C7103 C7104 C7105 C7108 C7109 C7110 C7111 C7112 C7113 C7114	C7115 C7116 C7117 C7118 CN7101 CN7102 CN7108 IC7101 IC7102 IC7103	L7101 Q7103 Q7104 R7104 R7105 R7106 R7107 R7108 R7109	B7106 C7101 C7102 C7106 C7107 D7101 Q7101 Q7102 R7101 R7102	R7103	C7119 L7102 Q7105 R7115 R7116 R7117	B7105	B7103	B7101 B7102	R7110 R7111	R7120	R7112 R7113 R7114 R7119 R7121	R7118 R7122	B2601	
HM-DH30000 A-HD3000"		×		×	×		○	○	○	SHORT	SHORT	×	SHORT	×	
HM-DH20000		×		×	×		×	○	○	×	SHORT	×	SHORT	×	
HM-DH30000U		×		×	○		○	○	○	×	×	×	SHORT	×	
HM-DR20000EUSEK		×		○	○		×	×	○	×	×	SHORT	×	×	
HM-DR20000MS		○		○	○		×	×	×	×	×	SHORT	×	×	

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN µF.
ELECTROLYTIC
CERAMIC

p10318001a_rev0

4.9 3D DIGITAL/4M SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

MARK ELEMENTS ARE NOT MOUNTED.
ALL DIODES ARE 1SS133 OR 1N4148
ALL PNP TYPE TRANSISTORS ARE 2SA1576A(QR) OR 2PA1576
ALL NPN TYPE TRANSISTORS ARE 2SC4081(QRS) OR 2PC4081
ALL NPN TYPE DIGITAL TRANSISTORS ARE DTC144WUA OR UN521E OR RN1309

DIFFERENCE TABLE

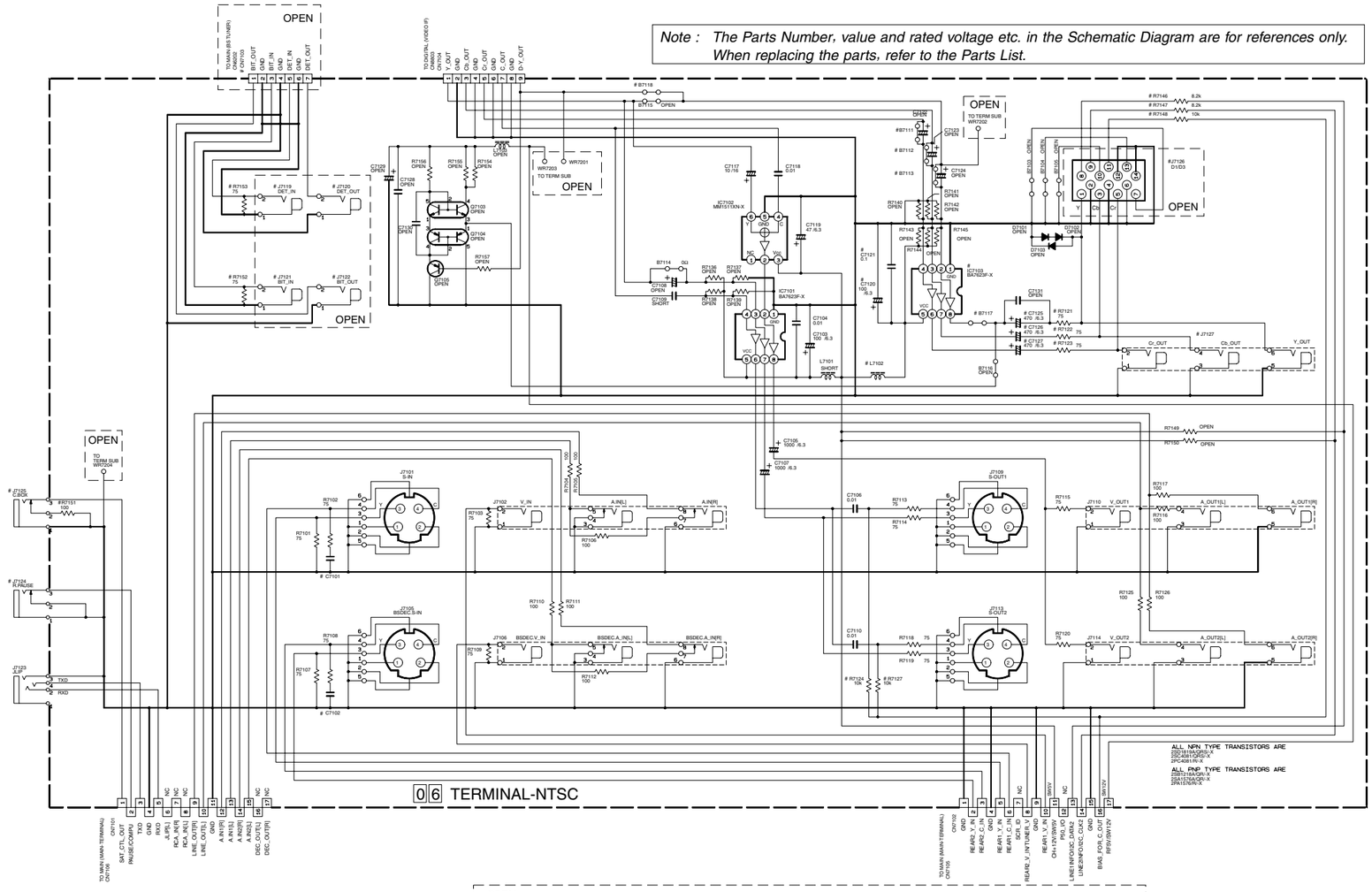
○ : Used
× : Not used

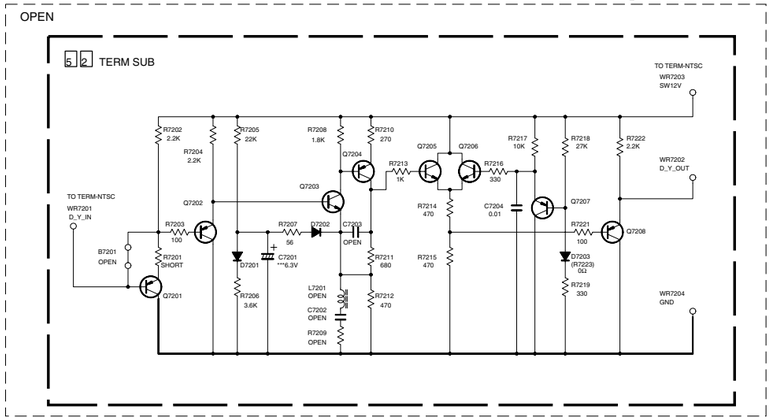
SYSTEM	IC1402,L1408 C1456,C1457,C1458,	B1401-B1408
4M	○	×
2M	×	○

p10277001a_rev1

4.10 TERMINAL-NTSC SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.





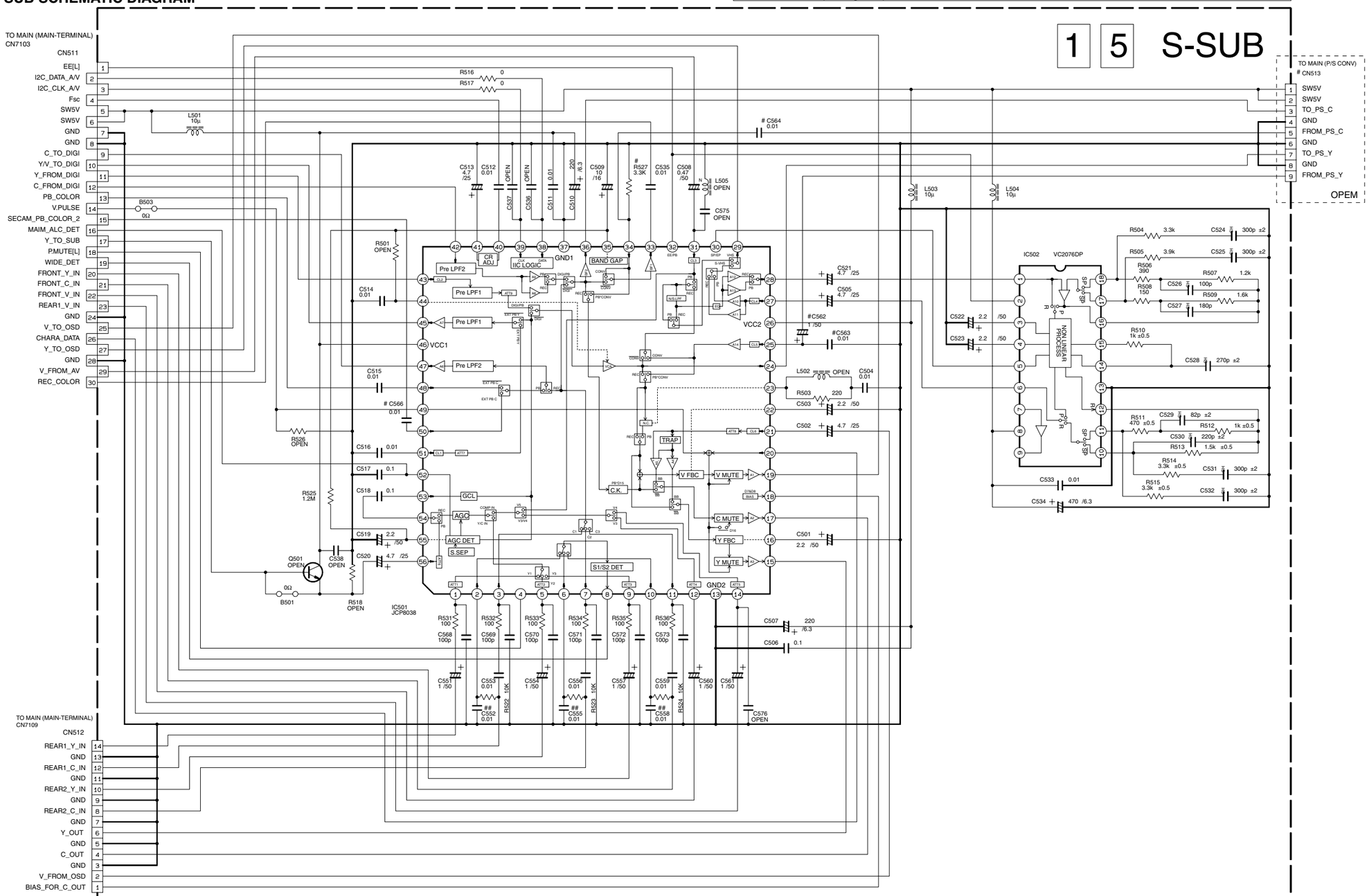
OPTION — ○ : Used × : Not used

	J7127	J7125 R7151	CN7103 J7119 J7120 J7121 J7122 J7126 R7146 R7147 R7148 R7152	R7153	B7111 B7112 B7113 B7117 B7118 C7120 C7121 C7125 C7126 C7127	IC7103 R7121 R7122 R7123	R7124 R7127	J7124	C7101 C7102	L7102	
HM-DH30000	×	×	○		○		○	○	0.01μ	SHORT	
HM-DH20000	×	×	×		×		○	○	0.01μ	×	
HM-DH30000U	○	○	×		○		×	○	SHORT	SHORT	
A-HD2000*	×	×	○		○		○	×	0.01μ	SHORT	

p10319001a_rev0.1

4.11 S-SUB SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



DIFFERENCE TABLE

○ : Used
× : Not used

	CN513 C562 C564 C566	C563 R527
MS	○	×
OTHERS	×	○

Marked elements may differ depending on the model. Be sure to check the Parts List.

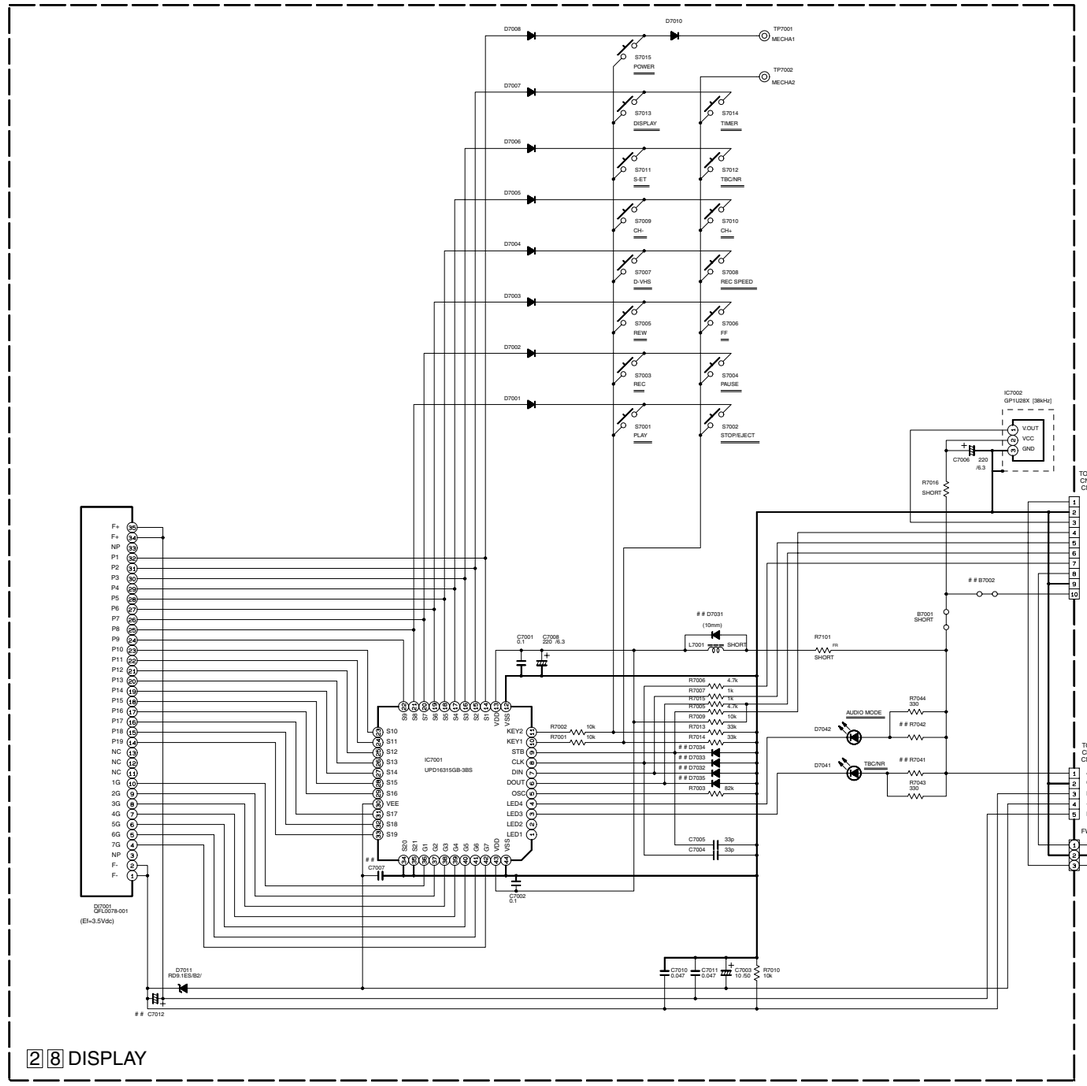
NOTES: UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

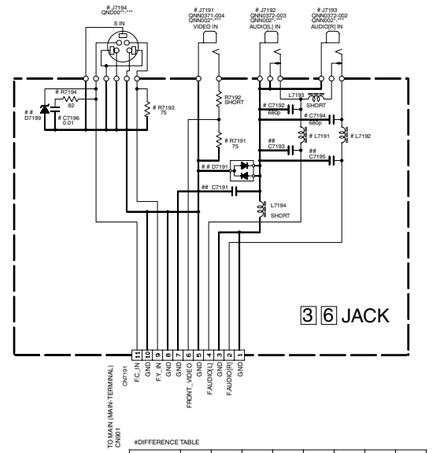
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20168001a_rev0

4.12 DISPLAY, REC SAFETY/D.CASS SW AND JACK SCHEMATIC DIAGRAMS

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.





#DIFFERENCE TABLE

	R7191	R7193	R7194	C7192	C7194	C7196	L7191	L7192
HM-DH30000 HM-DH30000 HM-DH30000U	○	X	X	X	X	X	100Ω	100Ω

○ : Used × : Not used

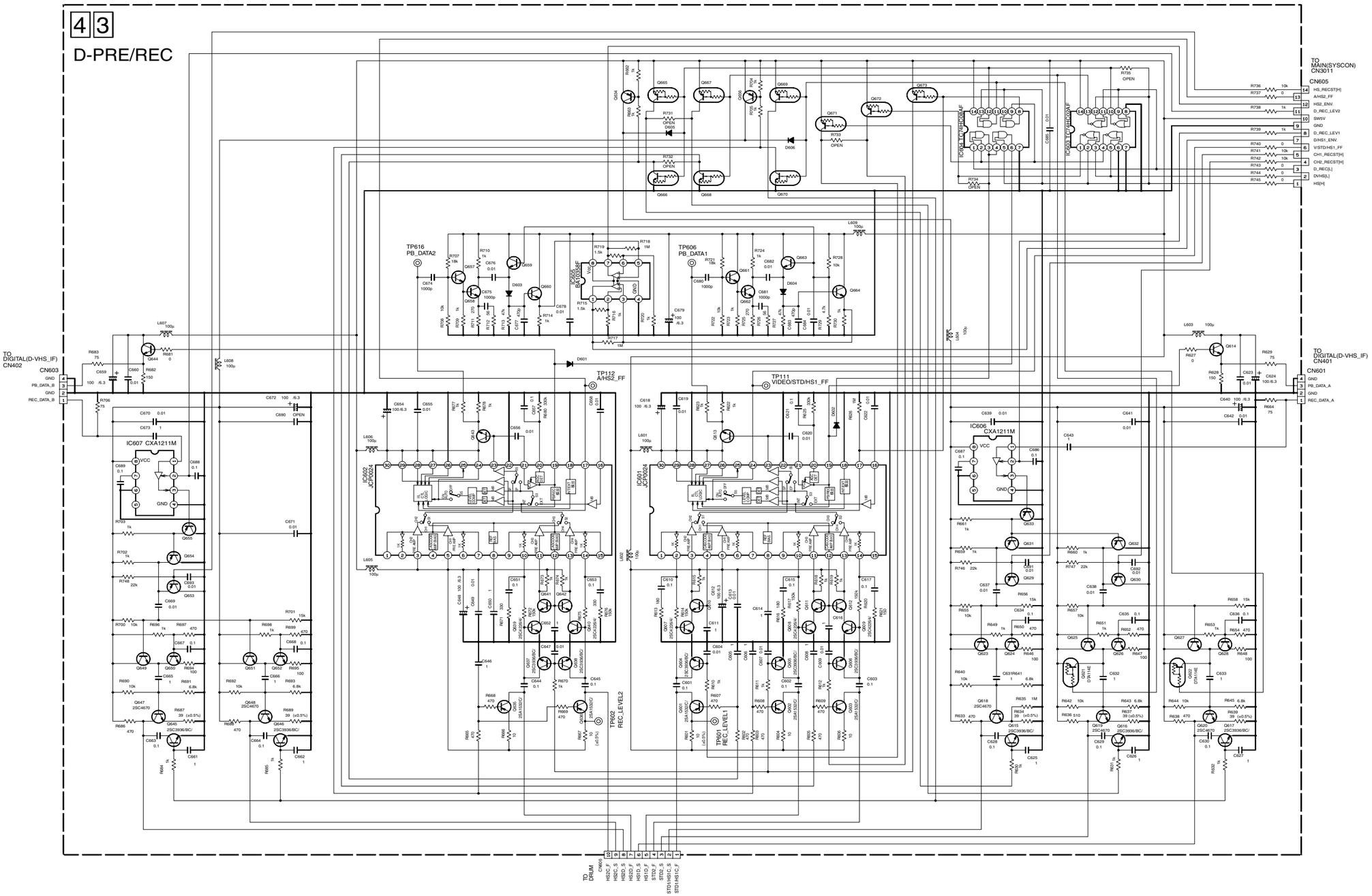
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

ALL SWITCHS ARE QSW0381-001 OR QSW0522-002Z.
ALL DIODES ARE 1SS133 OR 1SS270A.
ARE OPEN.

p10321001a_rev0

4.13 D-PRE/REC SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



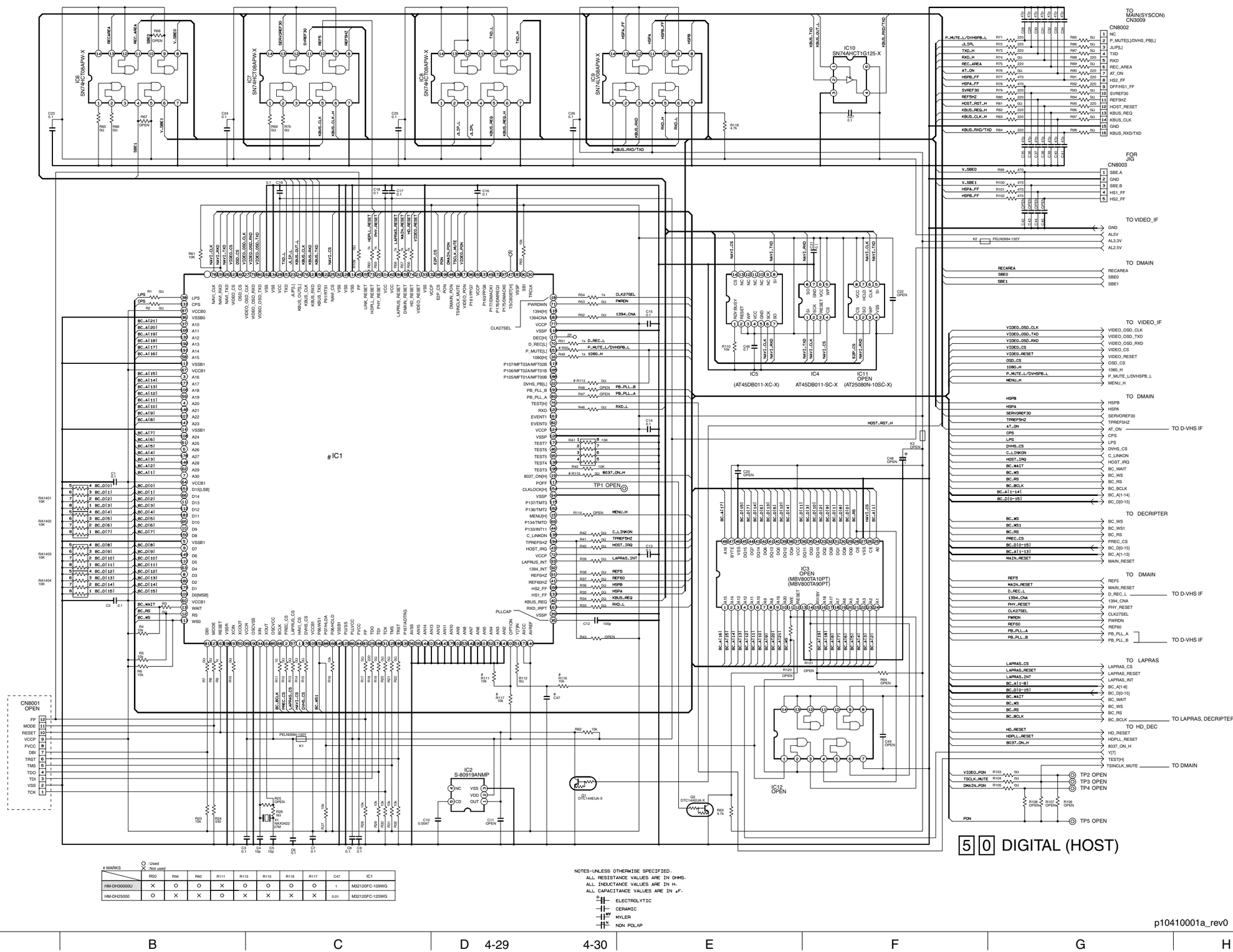
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.
ELECTROLYTIC
CERAMIC

ALL NPN TYPE TRANSISTORS ARE 2SC4081
ALL PNP TYPE TRANSISTORS ARE 2SA1576
ALL NPN TYPE DIGITAL TRANSISTORS ARE DTC144W
ALL PNP TYPE DIGITAL TRANSISTORS ARE DTA144W
ALL DIODES ARE 1SS355

p10329001a_rev0

4.14 DIGITAL (HOST) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



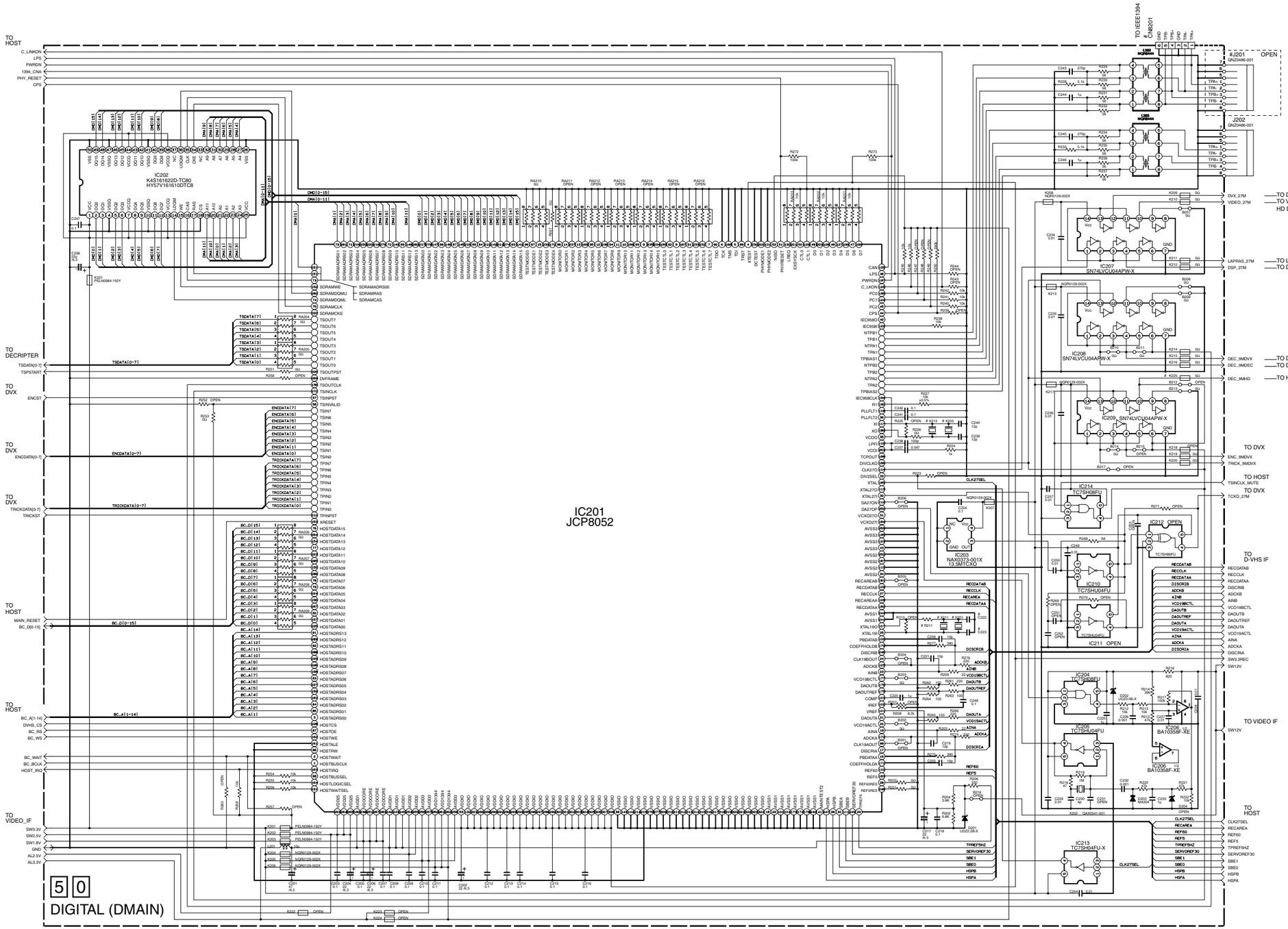
# MARKS	○ : Used × : Not used								
	R50	R56	R60	R111	R113	R115	R116	R117	C47	IC1
HM-DH30000U	×	○	○	×	○	○	○	○	1	M32120FC-109WG
HM-DH25000	○	×	×	○	×	×	×	×	0.01	M32120FC-125WG

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p10410001a_rev0

4.15 DIGITAL (DMAIN) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



# MARKS	○ : Used × : Not used									
	J201	CN8201	X201	X211	R211	C222	C223	X203	X213	K225
HM-DH30000U	×	○	NAX0423-001X	×	47	12p	12p	NAX0336-001X	×	○
HM-DH25000	○	×	NAX0423-001X	×	47	12p	12p	NAX0336-001X	×	×
HM-DH35000	×	○	×	NAX0510-001X	200	5p	5p	×	NAX0509-001X	○

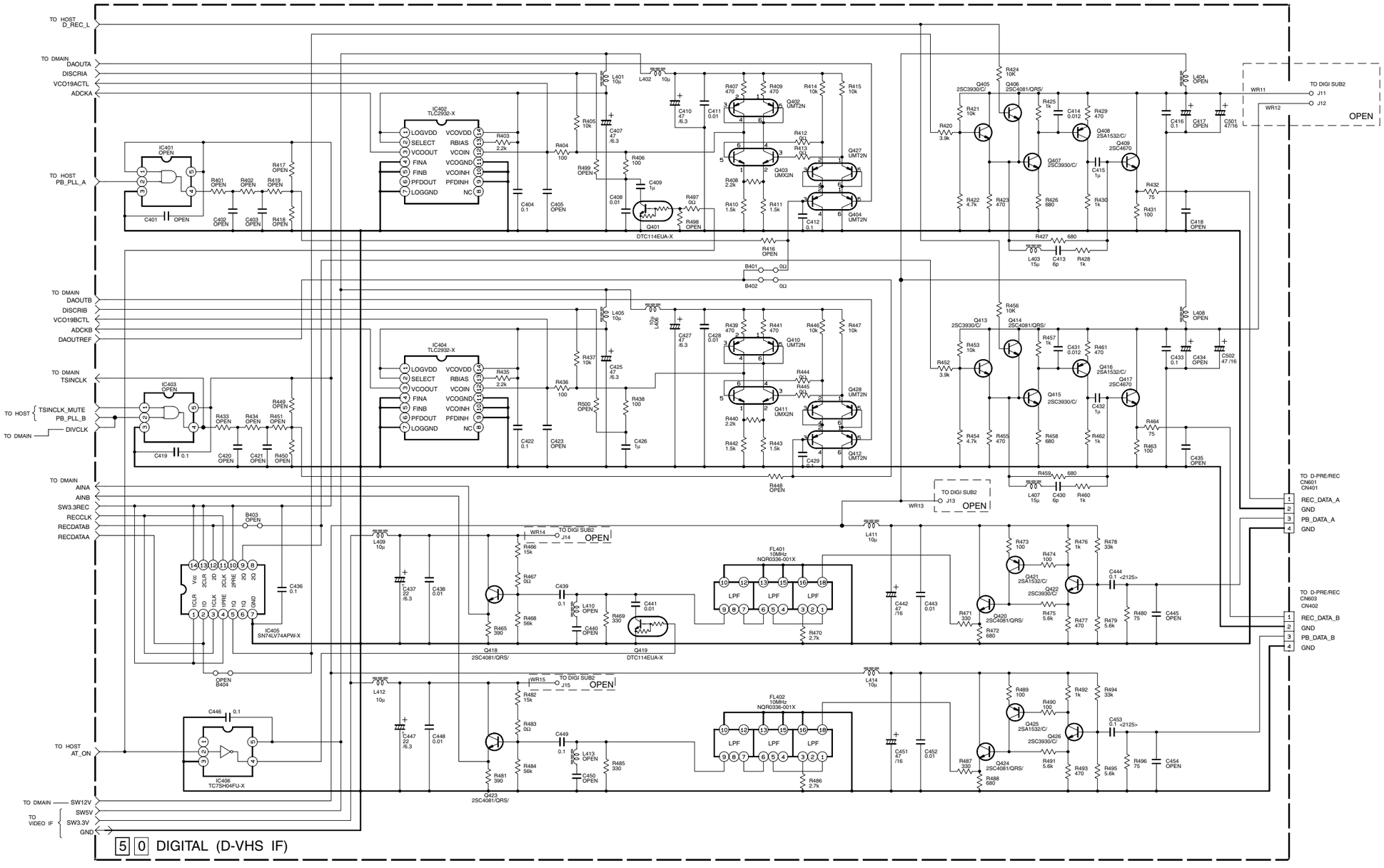
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p10411001a_rev0

4.16 DIGITAL (D-VHS IF) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



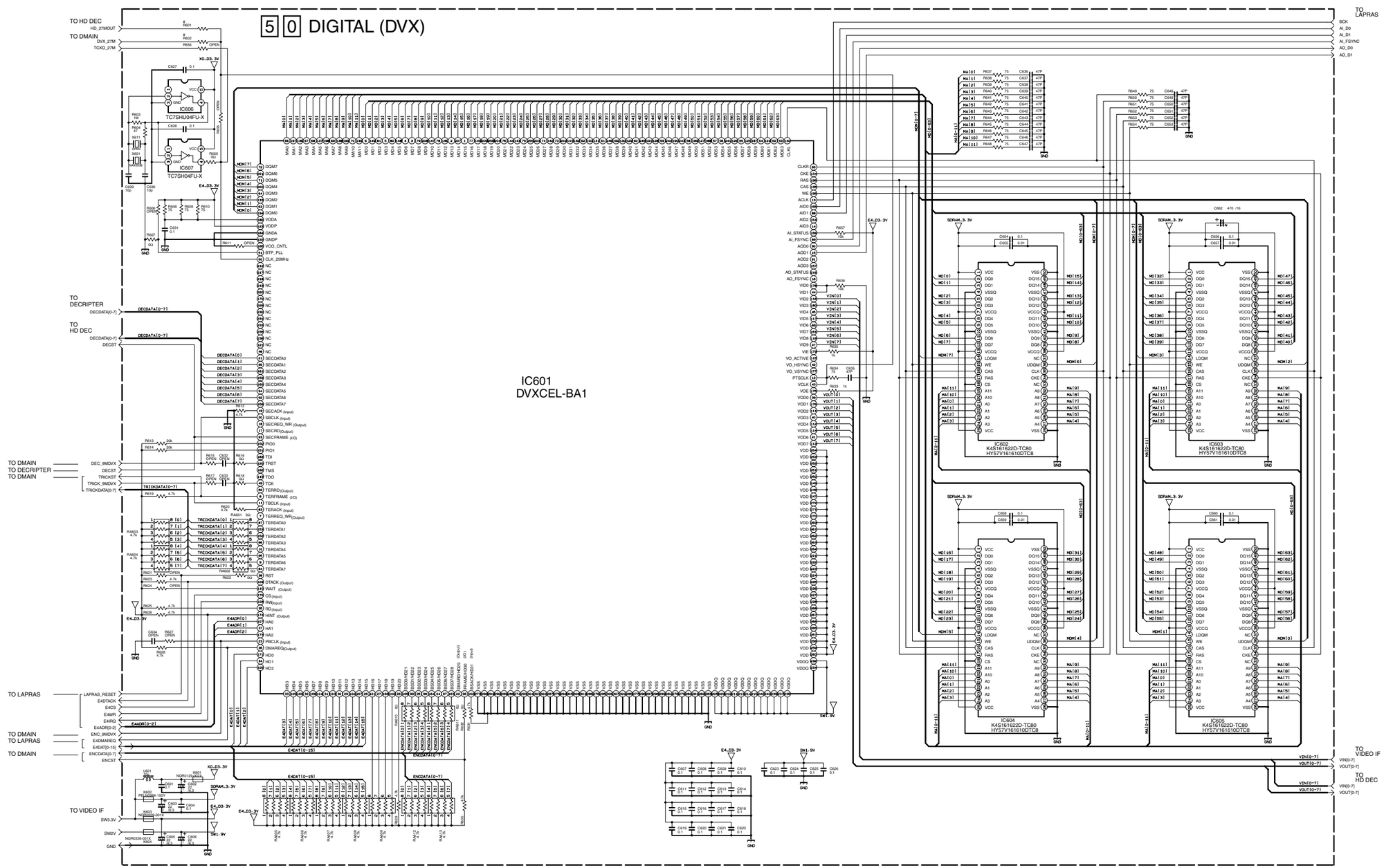
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20183001a_rev0.1

4.17 DIGITAL (DVX) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



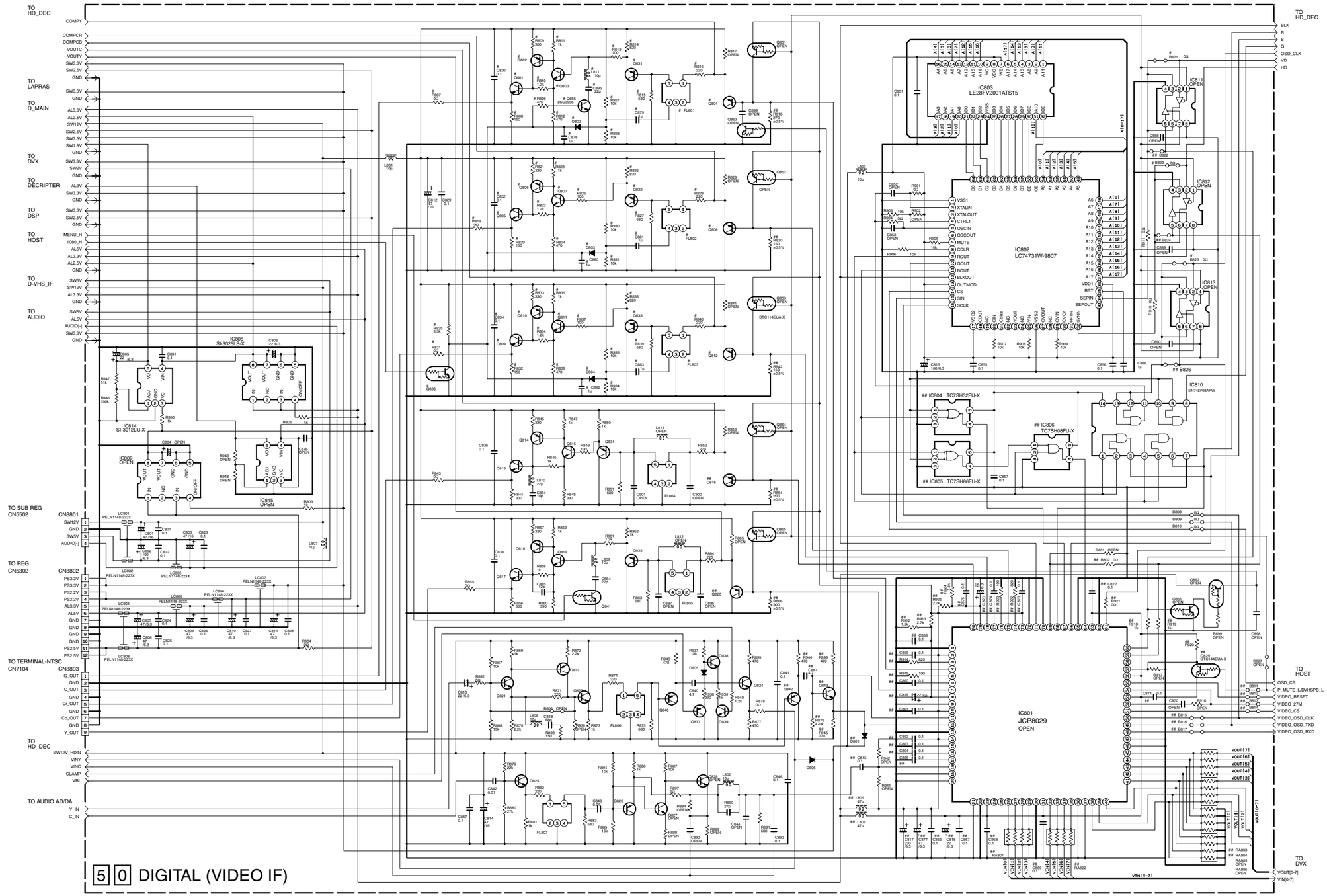
# MARKS	○ : Used × : Not used	
	R601	R602
HM-DH30000U	○	×
HM-DH25000	×	○
HM-DH35000	○	×

NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p10412001a_rev0

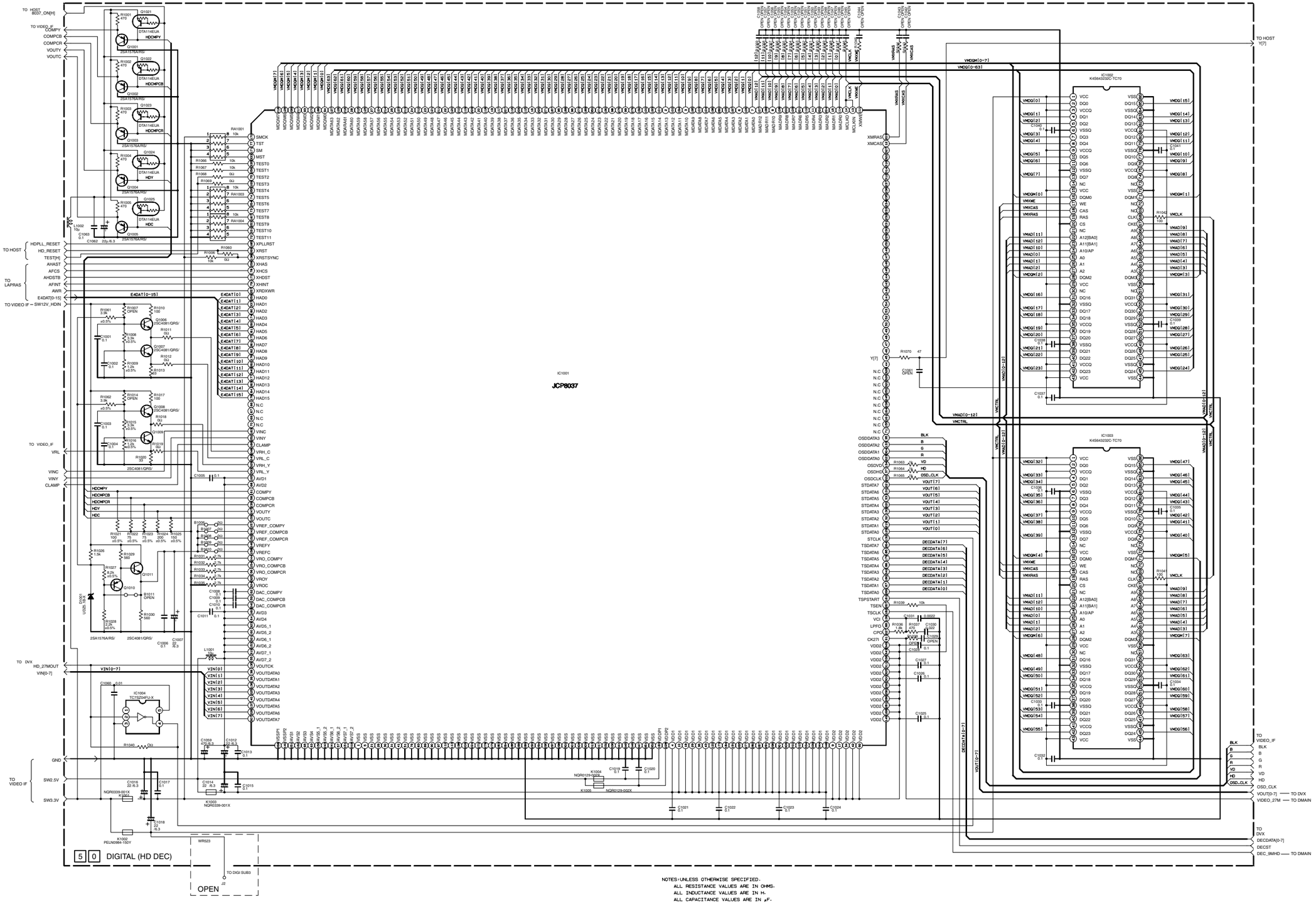
4.18 DIGITAL (VIDEO IF) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



4.19 DIGITAL (HD DEC) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.

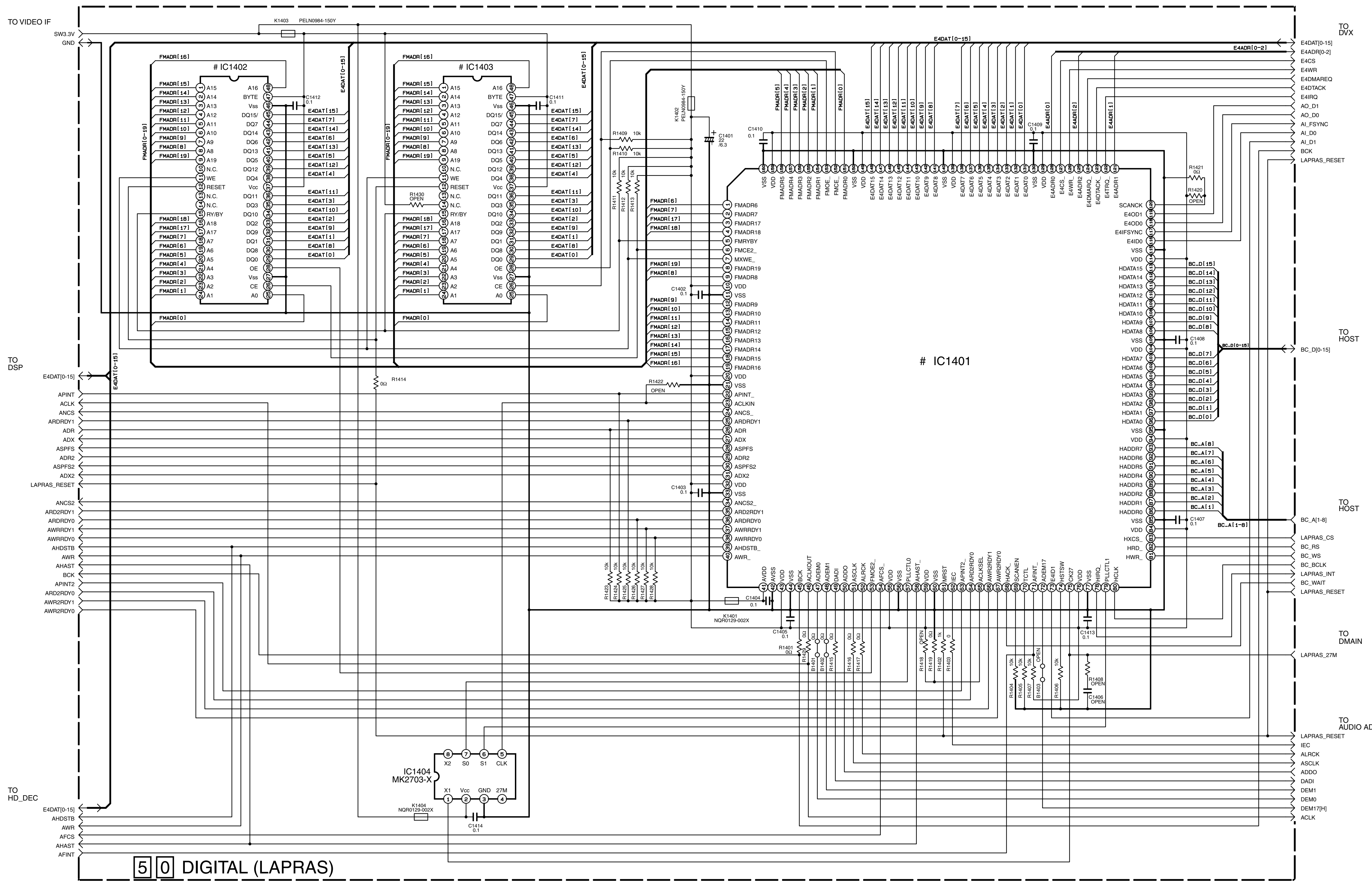


NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

4.20 DIGITAL (LAPRAS) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only.
When replacing the parts, refer to the Parts List.



TO VIDEO IF
SW3.3V
GND
K1403 PELN0984-150Y
IC1402
IC1403
IC1401
K1402 PELN0984-150Y
C1401 22 /6.3
IC1404 MK2703-X
K1404 NQR0129-002X
K1401 NQR0129-002X
TO DSP
E4DAT[0-15]
APINT
ACLK
ANCS
ARDRDY1
ADR
ADX
ASPFS
ADR2
ASPFS2
ADX2
LAPRAS_RESET
ANCS2
ARD2RDY1
ARDRDY0
AWRRDY1
AWRRDY0
AHDSTB
AWR
AHAST
BCK
APINT2
ARD2RDY0
AWR2RDY1
AWR2RDY0
TO HD_DEC
E4DAT[0-15]
AHDSTB
AWR
AFCS
AHAST
AFINT
TO DVX
E4DAT[0-15]
E4ADR[0-2]
E4CS
E4WR
E4DMAREQ
E4DTACK
E4IRQ
AO_D1
AO_D0
AI_FSYNC
AI_D0
AI_D1
BCK
LAPRAS_RESET
TO HOST
BC_D[0-15]
TO HOST
BC_A[1-8]
LAPRAS_CS
BC_RS
BC_WS
BC_BCLK
LAPRAS_INT
BC_WAIT
LAPRAS_RESET
TO DMAIN
LAPRAS_27M
TO AUDIO AD/DA
LAPRAS_RESET
IEC
ALRCK
ASCLK
ADDO
DADI
DEM1
DEM0
DEM17[H]
ACLK
5 0 DIGITAL (LAPRAS)

NOTICE

	IC1401	IC1402	IC1403
HM-DH30000U	JCP8034-2	OPEN	SST39VF160-7CEK
HM-DH25000	JCP8034	OPEN	MBV800TA90PT
HM-DH35000	JCP8034-2	MR27V1602E-1STN	SST39VF160-7CEK

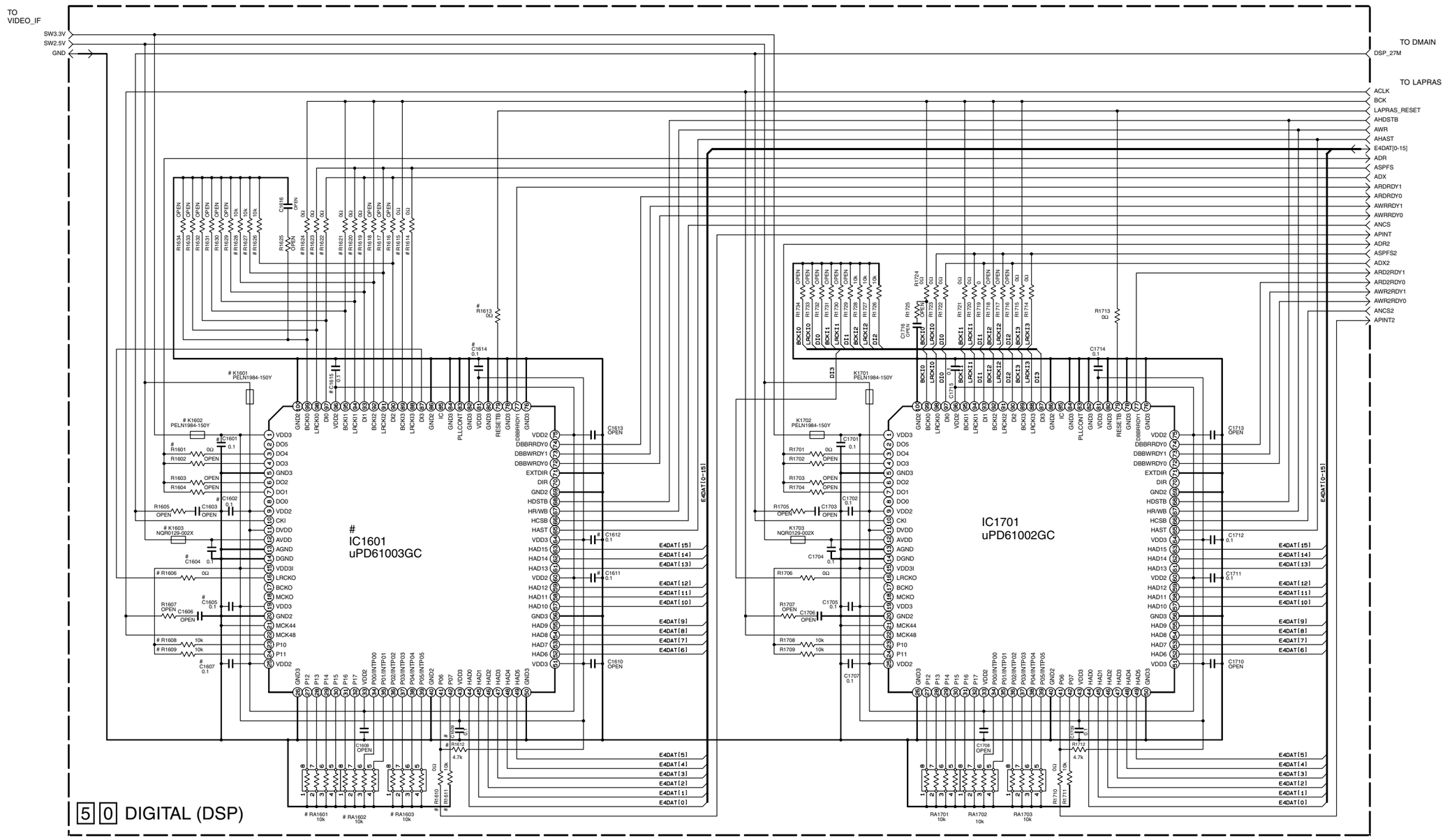
NOTES: UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

- ELECTROLYTIC
- CERAMIC
- MYLER
- NON POLAR

p20262001a_rev0

4.21 DIGITAL (DSP) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



5 0 DIGITAL (DSP)

MARKS ELEMENTS ARE MOUNTED ONLY HM-DH30000U.

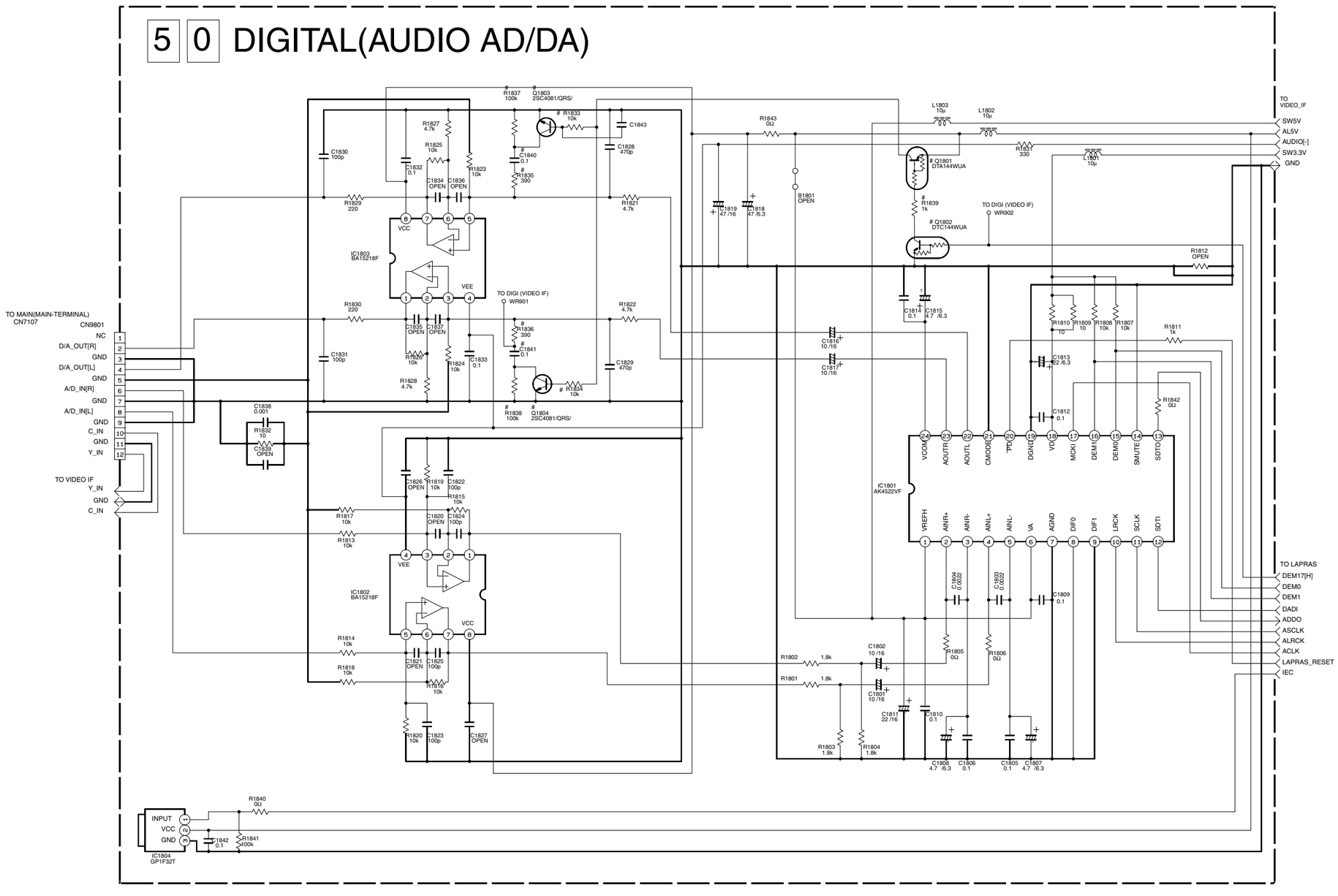
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20263001a_rev0

4.22 DIGITAL (AUDIO AD/DA) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



#DIFFERENCE TABLE

○ : Used × : Not used

SYMBOL / MODEL	Q1801 -Q1804 R1833 -R1839 C1840 ,C1841
JPN /US	×
EU/EK /MS	○

SYMBOL / MODEL		IC1804 R1840 R1841 C1842
OPTICAL OUT	YES	○
	NO	×

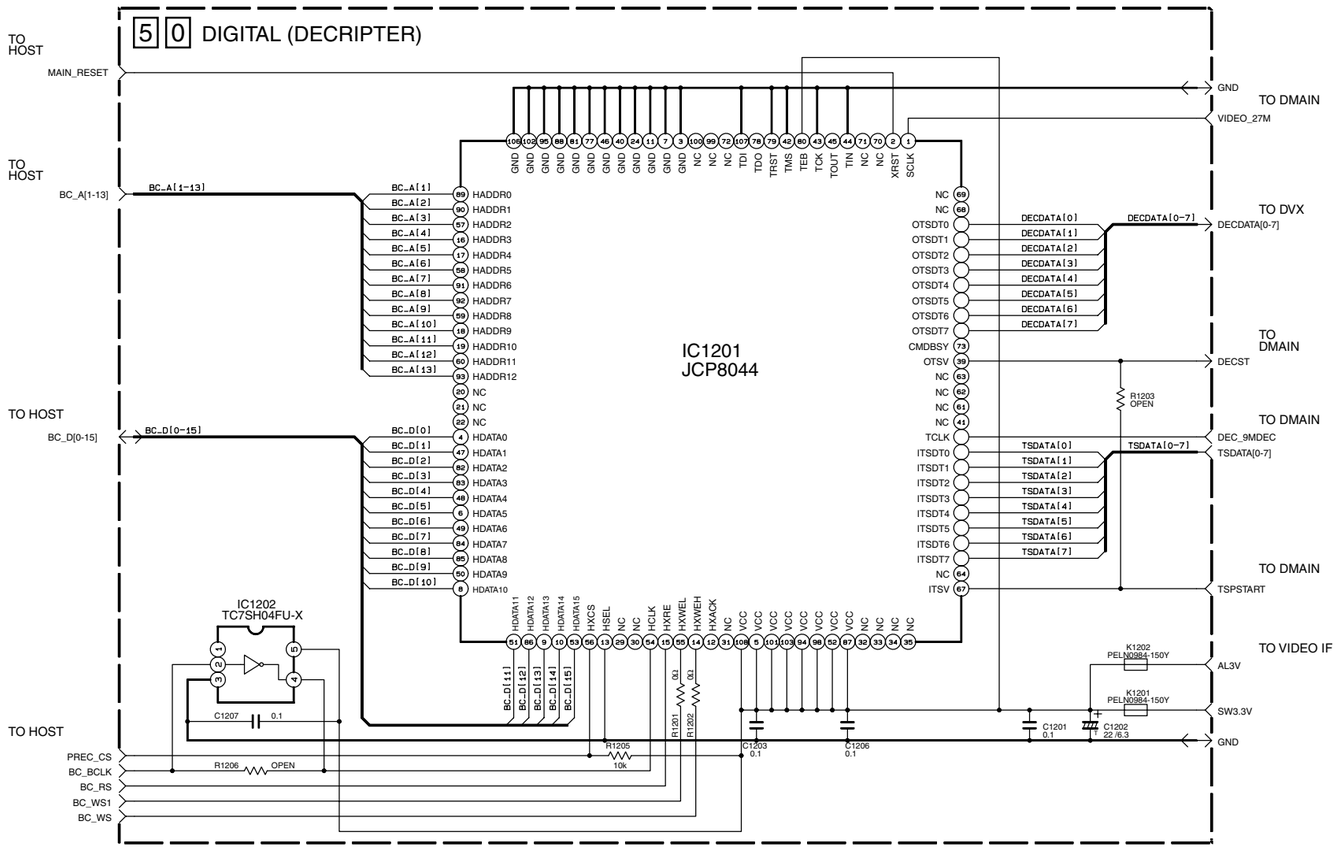
NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

p20182001a_rev0.1

4.23 DIGITAL (DECRIPTER) SCHEMATIC DIAGRAM

Note : The Parts Number, value and rated voltage etc. in the Schematic Diagram are for references only. When replacing the parts, refer to the Parts List.



NOTES:UNLESS OTHERWISE SPECIFIED.
ALL RESISTANCE VALUES ARE IN OHMS.
ALL INDUCTANCE VALUES ARE IN H.
ALL CAPACITANCE VALUES ARE IN μF.

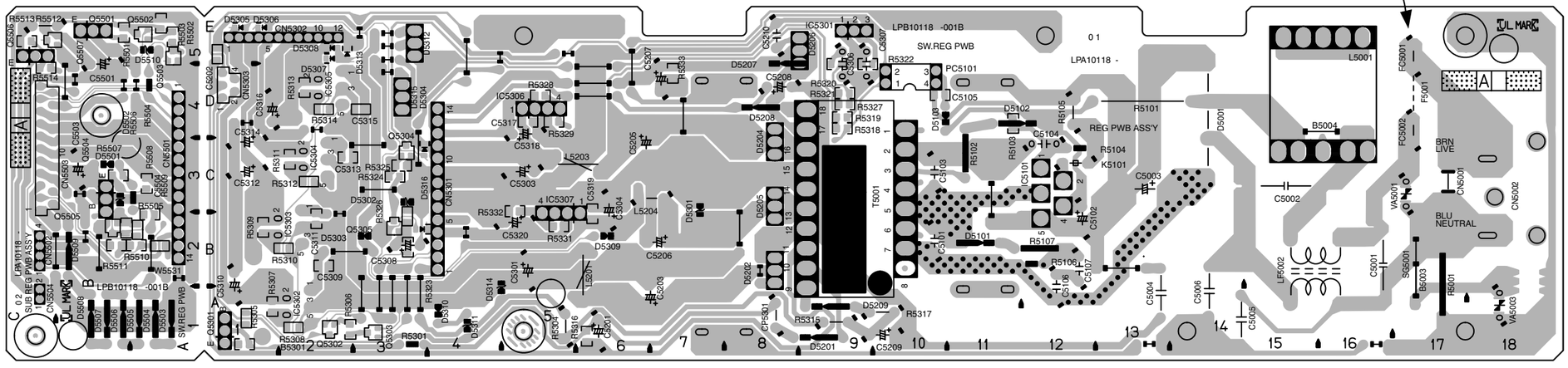
ELECTROLYTIC
CERAMIC
MYLER
NON POLAR

4.24 REGULATOR AND SUB REGULATOR CIRCUIT BOARDS

CAUTION :
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE AND RATED FUSE(S).
FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE CP(S) MANUFACTURED BY ROHM.
ATTENTION :
REPLACER PAR DES FUSIBLE DE MEME TYPE.

DANGEROUS VOLTAGE

<01> REGULATOR, <02> SUB REGULATOR
LPB10118-001B



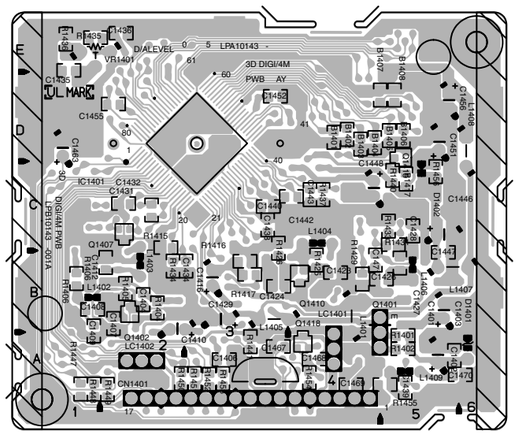
COMPONENT PARTS LOCATION GUIDE <REGULATOR AND SUB REGULATOR>

REF.NO.	LOCATION		
CAPACITOR			
C5001	A	D	17B
C5002	A	D	16C
C5003	A	D	14C
C5004	A	D	14B
C5005	A	D	15A
C5006	A	D	14A
C5101	A	D	11B
C5102	A	D	13C
C5103	A	D	11C
C5104	A	D	12C
C5105	B	C	11D
C5106	A	D	12A
C5107	A	D	13B
C5201	A	D	6A
C5202	B	C	1E
C5203	A	D	7A
C5205	A	D	7D
C5206	A	D	7B
C5207	A	D	7D
C5208	A	D	8D
C5209	A	D	10A
C5210	A	D	9E
C5301	A	D	5B
C5303	A	D	5C
C5304	A	D	6B
C5306	A	D	9E
C5307	A	D	10E
C5308	A	D	3B
C5309	B	C	2B
C5310	A	D	1A
C5311	B	C	2B
C5312	A	D	2C
C5313	B	C	3C
C5314	A	D	2C
C5315	B	C	3D
C5316	A	D	2D
C5317	B	C	5D
C5318	A	D	5D
C5319	B	C	6B
C5320	A	D	5B
CONNECTOR			
CN5001	A	D	18C
CN5002	A	D	18C
CN5301	A	D	4B
CN5302	A	D	1E
CN5303	A	D	1D
DIODE			
D5001	A	D	14C
D5101	A	D	11B
D5102	A	D	11D
D5103	A	D	11D
D5201	A	D	9A
D5202	A	D	9B
D5204	A	D	9C
D5205	A	D	9B
D5206	A	D	9E
D5207	A	D	9E
D5208	A	D	9D
D5209	A	D	10A
D5301	A	D	8C
D5302	A	D	4C
D5303	A	D	3B
D5304	B	C	4C
D5305	B	C	1E
D5306	B	C	2E
D5307	B	C	3E
D5308	B	C	3E
D5309	A	D	6B
D5310	A	D	4A
D5311	A	D	4A
D5312	A	D	4E
D5313	B	C	3E
D5314	A	D	5A
D5315	A	D	4D
D5316	B	C	4B
IC			
IC5101	A	D	12C
IC5301	A	D	9E
IC5302	A	D	2A
IC5303	A	D	2C
IC5304	A	D	3C
IC5305	A	D	3D
IC5306	A	D	5D
IC5307	A	D	6B
COIL			
L5001	A	D	17C
L5201	A	D	6A
L5203	A	D	6C
L5204	A	D	7C
TRANSISTOR			
Q5301	A	D	1A
Q5302	B	C	3A
Q5303	B	C	3A
Q5304	B	C	4C
Q5305	B	C	3B
RESISTOR			
R5001	A	D	18A
R5101	A	D	13D
R5102	A	D	11D
R5103	B	C	12D
R5104	A	D	13C
R5105	A	D	13D
R5106	A	D	12B
R5107	A	D	12B
R5301	A	D	4A
R5304	B	C	6A
R5305	B	C	1A
R5306	B	C	3A
R5307	B	C	2A
R5308	B	C	2A
R5309	B	C	2B
R5310	B	C	2B
R5311	B	C	2C
R5312	B	C	2C
R5313	B	C	2D
R5314	B	C	2D
R5315	A	D	10A
R5316	A	D	6A
R5317	A	D	10A
R5318	B	C	9D
R5319	B	C	9D
R5320	B	C	9D
R5321	B	C	9D
R5322	B	C	10D
R5323	B	C	4B
R5324	B	C	3C
R5325	B	C	3C
R5326	B	C	4B
R5327	B	C	9D
R5328	B	C	5D
R5329	B	C	6D
R5331	B	C	6B
R5332	B	C	5C
R5333	B	C	7D
OTHER			
CP5301	A	D	9A
F5001	A	D	17C
FC5001	A	D	17C
FC5002	A	D	17E
K5101	A	D	12C
LF5002	A	D	16A
PC5101	A	D	10D
SG5001	A	D	17A
T5001	A	D	10D
VA5001	A	D	17C
VA5003	A	D	18A

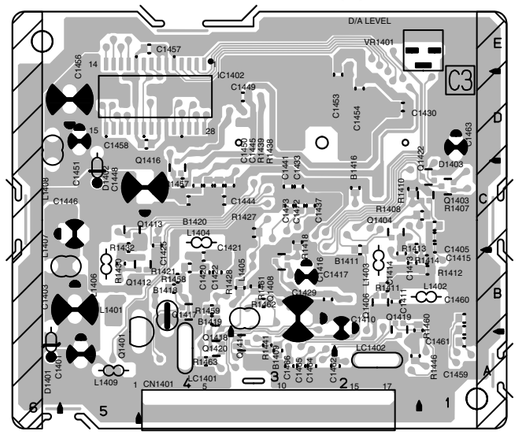
4.25 3D DIGITAL/4M AND S-SUB CIRCUIT BOARDS

<05> 3D DIGITAL/4M
LPB10143-001A

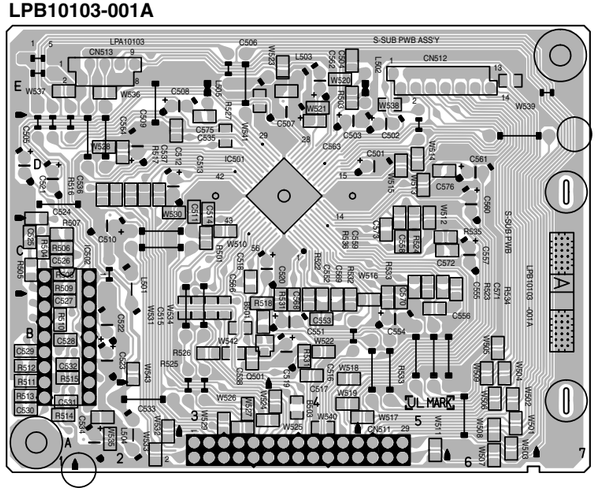
—FOIL SIDE(B)—



—COMPONENT SIDE(A)—



<15> S-SUB
LPB10103-001A



COMPONENT PARTS LOCATION GUIDE
<3D DIGITAL/4M>

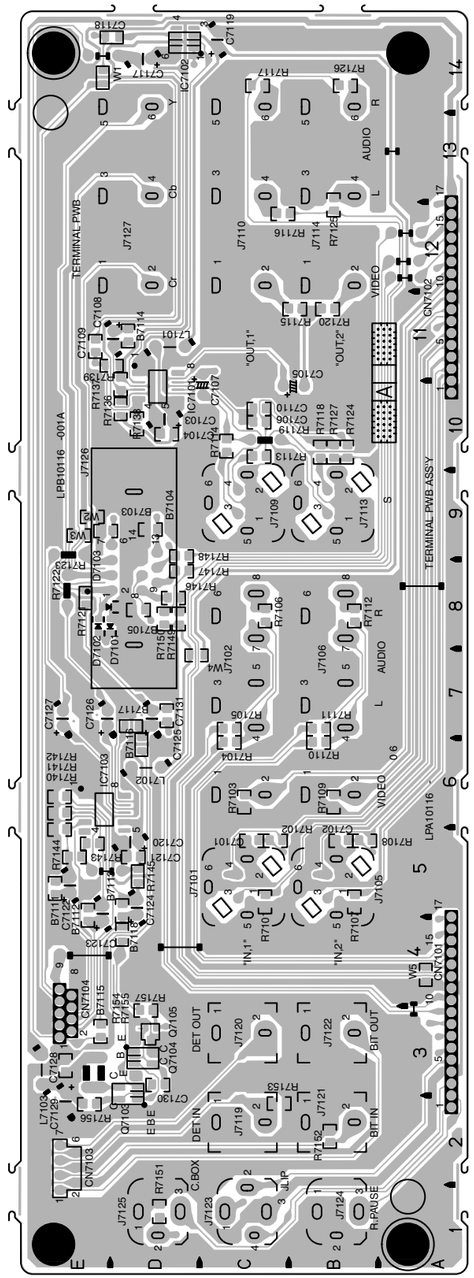
REF.NO.	LOCATION		
CAPACITOR			
C1401	A	D	5A
C1402	B	C	5A
C1403	A	D	5B
C1404	B	C	2B
C1405	A	C	1C
C1406	B	C	3A
C1407	B	C	2B
C1408	B	C	1B
C1409	B	C	1B
C1410	A	D	2B
C1411	A	C	2B
C1412	B	C	2B
C1413	A	C	2B
C1414	A	C	2B
C1415	A	C	1C
C1416	A	D	3B
C1417	A	C	3B
C1420	A	C	4B
C1421	A	C	4B
C1422	A	C	4B
C1423	B	C	4B
C1424	B	C	3B
C1425	A	C	4C
C1426	B	C	5B
C1427	B	C	5B
C1428	B	C	5C
C1429	A	D	3B
C1430	A	C	2D
C1431	B	C	2C
C1432	B	C	2C
C1433	A	C	3C
C1434	B	C	2B
C1435	B	C	1E
C1436	B	C	2E
C1437	A	C	3C
C1438	B	C	3C
C1439	B	C	5A
C1440	B	C	3C
C1441	A	C	3C
C1442	B	C	4C
C1443	B	C	4C
C1444	A	C	4C
C1445	A	C	4C
C1446	A	D	5C
C1447	B	C	5B
C1448	A	D	5C
C1449	A	C	3D
C1450	A	C	4C
C1451	A	D	5D
C1452	B	C	3D
C1453	A	C	2D
C1454	A	C	2D
C1455	B	C	2D
C1456	A	D	5D
C1457	A	C	5E
C1458	A	C	5D
C1459	A	C	1A
C1460	A	C	1B
C1461	A	C	1B
C1462	A	C	2A
C1463	A	D	1D
C1464	A	C	3A
C1465	A	C	3A
C1466	A	C	3A
C1467	B	C	3A
C1468	B	C	4A
C1469	B	C	4A
C1470	B	C	6A
C1471	B	C	5B
C1472	A	C	3C
C1473	A	C	3C
CONNECTOR			
CN1401	A	D	5A
DIODE			
D1401	A	D	6B
D1402	A	D	5D
D1403	A	C	1C
IC			
IC1401	B	C	3D
IC1402	A	C	4D
COIL			
L1401	A	D	4B
L1402	A	D	1B
L1403	A	D	2B
L1404	A	D	4C
L1405	A	D	4B
L1406	A	D	5B
L1407	A	D	6B
L1408	A	D	6C
L1409	A	D	5A
TRANSISTOR			
Q1401	A	D	5B
Q1402	B	C	2B
Q1403	A	C	1C
Q1404	A	C	2C
Q1406	A	C	2B
Q1407	B	C	2C
Q1408	A	C	3B
Q1410	B	C	4B
Q1412	A	C	5B
Q1413	A	C	5C
Q1414	A	C	3A
Q1415	B	C	5D
Q1416	A	C	4C
Q1417	A	C	4B
Q1418	B	C	4A
Q1419	A	C	2B
Q1420	A	C	4A
Q1421	A	C	4B
Q1422	A	C	1C
RESISTOR			
R1401	B	C	5B
R1402	B	C	5A
R1404	B	C	2B
R1405	B	C	2B
R1406	B	C	1B
R1407	A	C	1C
R1408	A	C	1C
R1410	A	C	2C
R1411	A	C	2B
R1412	A	C	1B
R1413	A	C	2C
R1414	A	C	1B
R1415	B	C	2C
R1416	B	C	3B
R1417	B	C	3B
R1418	A	C	3C
R1421	A	C	4B
R1425	B	C	4B
R1426	B	C	3C
R1427	A	C	3C
R1428	A	C	3B
R1429	B	C	4B
R1430	A	C	5B
R1431	B	C	5C
R1432	A	C	5C
R1433	B	C	5C
R1434	B	C	2B
R1435	B	C	1E
R1436	B	C	1E
R1437	B	C	4C
R1438	A	C	4C
R1439	A	C	4C
R1440	B	C	5C
R1441	B	C	3A
R1442	A	C	3A
R1446	A	C	2A
R1447	B	C	1A
R1448	B	C	1A
R1449	B	C	2A
R1450	B	C	2A
R1451	B	C	3A
R1452	B	C	3A
R1453	B	C	3A
R1454	B	C	4A
R1455	B	C	5A
R1456	B	C	5C
R1457	A	C	4C
R1458	A	C	4B
R1459	A	C	4B
R1460	A	C	1B
R1461	A	C	3B
R1462	A	C	3B
R1463	A	C	4A
VR1401	A	D	1E
OTHER			
LC1401	A	D	4A
LC1402	A	D	2A

COMPONENT PARTS LOCATION GUIDE
<S-SUB>

REF.NO.	LOCATION		
CAPACITOR			
C501	A	D	5D
C502	A	D	5D
C503	A	D	4D
C504	B	C	4E
C505	A	D	1D
C506	B	C	4E
C507	A	D	4E
C508	A	D	2E
C509	A	D	2D
C510	A	D	2C
C511	B	C	3C
C512	B	C	2D
C513	A	D	2D
C514	B	C	3C
C515	B	C	3B
C516	B	C	4B
C517	B	C	4B
C518	B	C	3C
C519	A	D	4B
C520	A	D	3C
C521	A	D	1D
C522	A	D	2B
C523	A	D	2B
C524	B	C	1C
C525	B	C	1C
C526	B	C	1C
C527	B	C	1B
C528	B	C	1B
C529	B	C	1B
C530	B	C	1A
C531	B	C	1A
C532	B	C	1B
C533	B	C	2A
C534	A	D	2A
C535	B	C	2D
C536	B	C	2D
C537	B	C	2D
C538	B	C	3B
C551	A	D	4B
C552	B	C	4B
C553	B	C	4B
C554	A	D	5B
C555	B	C	5C
C556	B	C	5B
C557	A	D	6C
C558	B	C	5C
C559	B	C	5C
C560	A	D	6D
C561	A	D	6D
C562	A	D	4E
C563	B	C	4D
C564	B	C	2D
C566	B	C	3B
C568	B	C	4B
C569	B	C	4B
C570	B	C	5B
C571	B	C	5C
C572	B	C	6C
C573	B	C	5C
C575	B	C	3D
C576	B	C	5D
CONNECTOR			
CN511	A	D	3A
CN512	A	D	5E
CN513	A	D	1E
IC			
IC501	B	C	4D
IC502	A	D	1C
COIL			
L501	A	D	2B
L502	A	D	5E
L503	A	D	3E
L504	A	D	2A
L505	A	D	3E
TRANSISTOR			
Q501	B	C	3B
RESISTOR			
R501	B	C	3C
R503	B	C	4E
R504	B	C	1C
R505	B	C	1C
R506	B	C	1C
R507	B	C	1C
R508	B	C	1C
R509	B	C	1C
R510	B	C	1B
R511	B	C	1B
R512	B	C	1B
R513	B	C	1A
R514	B	C	1A
R515	B	C	1B
R516	B	C	2D
R517	B	C	2D
R518	B	C	3B
R522	B	C	4B
R523	B	C	5C
R524	B	C	5C
R525	B	C	3B
R526	B	C	3B
R527	B	C	3D
R531	B	C	4B
R532	B	C	4B
R533	B	C	5B
R534	B	C	6C
R535	B	C	5C
R536	B	C	5C

4.26 TERMINAL CIRCUIT BOARD

<06> TERMINAL
LPB10116-001A

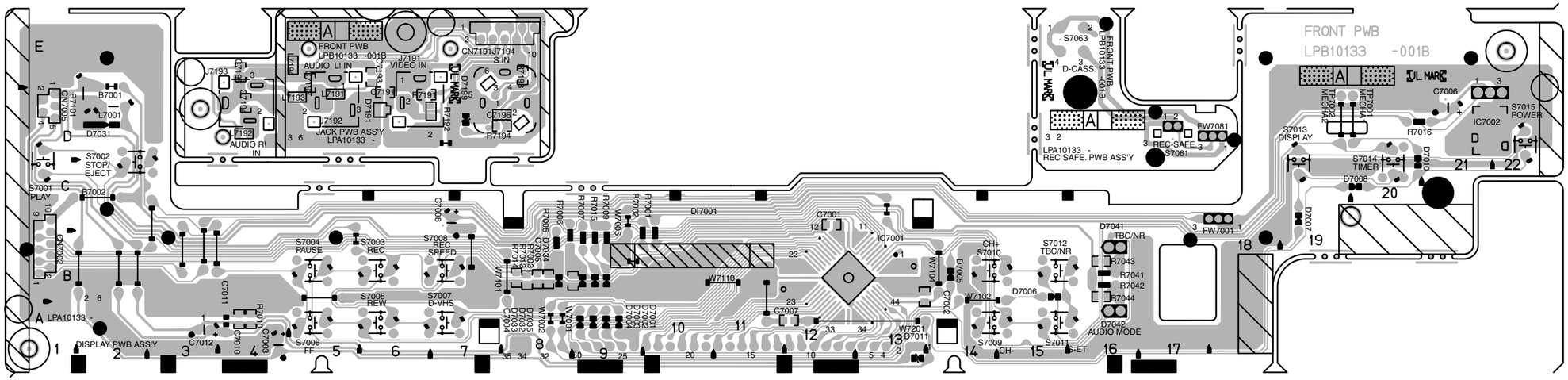


COMPONENT PARTS LOCATION GUIDE
<TERMINAL>

REF.NO.	LOCATION		
CAPACITOR			
C7101	B	C	5C
C7102	B	C	5B
C7103	A	D	10D
C7104	B	C	10D
C7105	A	D	10C
C7106	B	C	10C
C7107	A	D	11D
C7108	A	D	11E
C7109	B	C	11E
C7110	B	C	10C
C7117	A	D	14D
C7118	B	C	14E
C7119	A	D	14C
C7120	A	D	5D
C7121	B	C	5D
C7122	A	D	5E
C7123	A	D	4E
C7124	A	D	5D
C7125	A	D	7D
C7126	A	D	7E
C7127	A	D	7E
C7128	B	C	3E
C7129	A	D	3E
C7130	B	C	3D
C7131	B	C	7D
CONNECTOR			
CN7101	A	D	2A
CN7102	A	D	10A
CN7103	A	D	1E
CN7104	A	D	3E
DIODE			
D7101	B	C	8E
D7102	B	C	8E
D7103	B	C	8E
IC			
IC7101	B	C	10D
IC7102	B	C	14D
IC7103	B	C	6E
JACK			
J7101	A	D	5C
J7102	A	D	7C
J7105	A	D	5B
J7106	A	D	7B
J7109	A	D	9C
J7110	A	D	13C
J7113	A	D	9B
J7114	A	D	13B
J7119	A	D	2C
J7120	A	D	3C
J7121	A	D	2B
J7122	A	D	3B
J7123	A	D	1C
J7124	A	D	1B
J7125	A	D	1D
J7126	A	D	8D
J7127	A	D	13D
COIL			
L7101	A	D	11D
L7102	A	D	6D
L7103	A	D	3E
TRANSISTOR			
Q7103	B	C	3D
Q7104	B	C	3D
Q7105	B	C	3D
RESISTOR			
R7101	B	C	5C
R7102	B	C	5C
R7103	B	C	6C
R7104	B	C	6C
R7105	B	C	7C
R7106	B	C	8C
R7107	B	C	5B
R7108	B	C	5B
R7109	B	C	6B
R7110	B	C	6B
R7111	B	C	7B
R7112	B	C	8B
R7113	B	C	10C
R7114	B	C	10C
R7115	B	C	11C
R7116	B	C	12C
R7117	B	C	14C
R7118	B	C	10B
R7119	A	D	10C
R7120	B	C	11B
R7121	B	C	8E
R7122	A	D	8E
R7123	A	D	9E
R7124	B	C	10B
R7125	B	C	12B
R7126	B	C	14B
R7127	B	C	10B
R7136	B	C	10D
R7137	B	C	10D
R7138	B	C	10D
R7139	B	C	11E
R7140	B	C	5E
R7141	B	C	6E
R7142	B	C	6E
R7143	B	C	5E
R7144	B	C	5E
R7145	B	C	5D
R7146	B	C	8D
R7147	B	C	8D
R7148	B	C	9D
R7149	B	C	8D
R7150	B	C	8D
R7151	B	C	1D
R7152	B	C	2B
R7153	B	C	2C
R7154	A	D	3E
R7155	A	D	3E
R7156	B	C	2E
R7157	B	C	3D

4.27 DISPLAY, REC SAFETY AND JACK CIRCUIT BOARDS

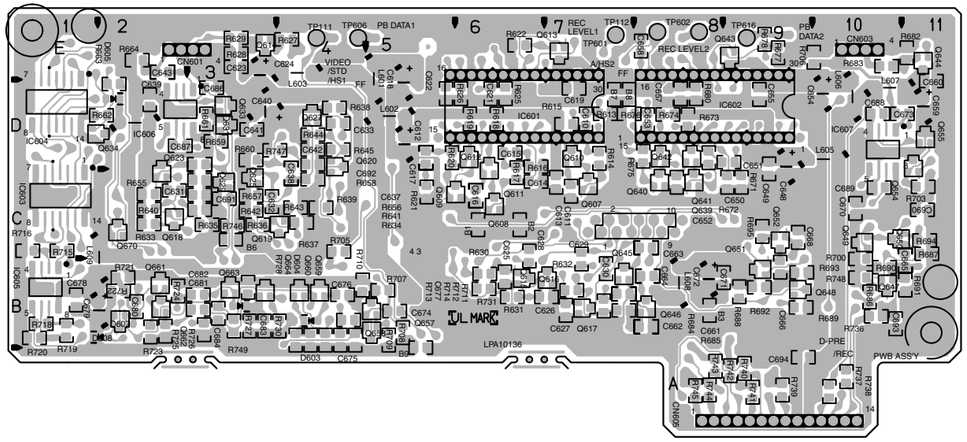
<28> DISPLAY, <32> REC SAFETY, <36> JACK
LPB10133-001B



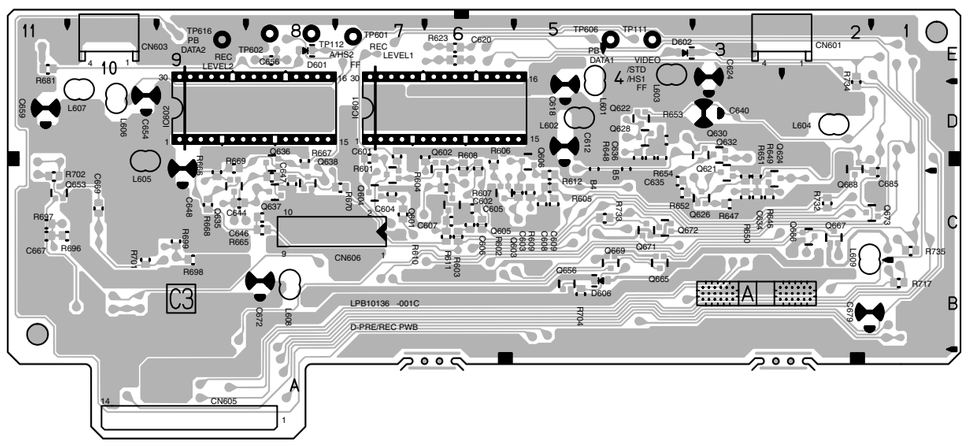
4.28 D-PRE/REC CIRCUIT BOARD

<43> D-PRE/REC
LPB10136-001C

—FOIL SIDE(B)—



—COMPONENT SIDE(A)—



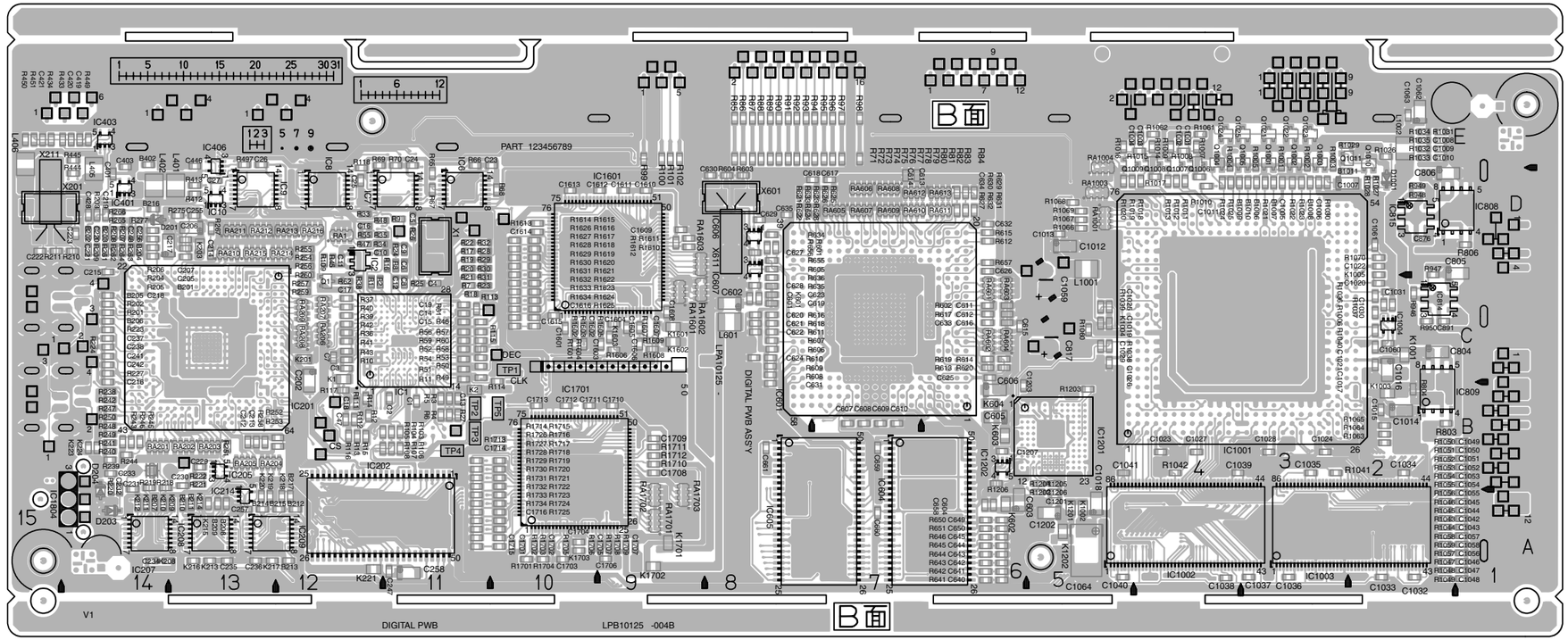
COMPONENT PARTS LOCATION GUIDE
<D-PRE/REC>

REF.NO.	LOCATION		
CAPACITOR			
C601	A	C	7D
C602	A	C	6C
C603	A	C	5C
C604	A	C	7C
C605	A	C	6C
C606	A	C	6C
C607	A	C	6C
C608	A	C	5C
C609	A	C	5C
C610	B	C	7D
C611	B	C	7C
C612	A	D	5D
C613	B	C	7C
C614	B	C	6C
C615	B	C	6D
C616	B	C	6C
C617	B	C	5D
C618	A	D	5E
C619	B	C	7D
C620	A	C	6E
C621	B	C	6D
C622	B	C	5D
C623	B	C	3E
C624	A	D	3E
C625	B	C	6B
C626	B	C	7B
C627	B	C	7B
C628	B	C	6C
C629	B	C	7B
C630	B	C	7B
C631	B	C	2C
C632	B	C	3C
C633	B	C	4D
C634	A	C	3C
C635	A	C	4C
C636	A	C	4D
C637	B	C	3D
C638	B	C	4C
C639	B	C	2D
C640	A	D	3D
C641	B	C	3D
C642	B	C	4D
C643	B	C	2E
C644	A	C	9C
C645	A	C	8C
C646	A	C	8C
C647	A	C	8C
C648	A	D	9D
C649	B	C	9D
C650	B	C	9C
C651	B	C	9D
C652	B	C	8C
C653	B	C	8D
C654	A	D	10D
C655	B	C	9D
C656	A	C	8E
C657	B	C	8D
C658	B	C	8E
C659	A	D	11D
C660	B	C	11D
C661	B	C	7B
C662	B	C	8B
C663	B	C	8C
C664	B	C	8B
C665	B	C	11B
C666	B	C	9B
C667	A	C	11C
C668	B	C	9C
C669	A	C	10C
C670	B	C	10C
C671	B	C	9B
C672	A	D	8B
C673	B	C	11D
C674	B	C	5B
C675	B	C	4B
C676	B	C	4B
C677	B	C	4B
C678	B	C	1B
C679	A	D	2B
C680	B	C	2B
C681	B	C	3B
C682	B	C	3B
C683	B	C	3B
C684	B	C	3B
C685	A	C	1C
C686	B	C	3D
C687	B	C	2D
C688	B	C	10D
C689	B	C	10C
C690	B	C	11C
C691	B	C	3C
C692	B	C	4D
C693	B	C	10B
C694	B	C	9A
CONNECTOR			
CN601	A	D	2E
CN603	A	D	10E
CN605	A	D	8A
CN606	A	D	7C
DIODE			
D601	A	C	8E
D602	A	C	4E
D603	B	C	4B
D604	B	C	3B
D605	B	C	2D
D606	A	C	5B
D607	B	C	2B
D608	B	C	2B
IC			
IC601	A	D	7D
IC602	A	D	9D
IC603	B	C	1C
IC604	B	C	1D
IC605	B	C	1B
IC606	B	C	2D
IC607	B	C	10D
COIL			
L601	A	D	5D
L602	A	D	5D
L603	A	D	4E
L604	A	D	2D
L605	A	D	10D
L606	A	D	10D
L607	A	D	11D
L608	A	D	8B
L609	A	D	2C
TRANSISTOR			
Q601	A	C	7C
Q602	A	C	6D
Q603	A	C	6C
Q604	A	C	7C
Q605	A	C	6C
Q606	A	C	5D
Q607	B	C	7C
Q608	B	C	6C
Q609	B	C	6C
Q610	B	C	7D
Q611	B	C	6D
Q612	B	C	6D
Q613	B	C	7E
Q614	B	C	3E
Q615	B	C	6B
Q616	B	C	7B
Q617	B	C	7B
Q618	B	C	2C
Q619	B	C	4C
Q620	B	C	4D
Q621	A	C	3C
Q622	A	C	4D
Q623	B	C	2C
Q624	A	C	3C
Q625	B	C	3C
Q626	A	C	3C
Q627	B	C	4D
Q628	A	C	4D
Q629	B	C	3C
Q630	A	C	3D
Q631	B	C	3D
Q632	A	C	3D
Q633	B	C	3D
Q634	B	C	2D
Q635	A	C	9C
Q636	A	C	8D
Q637	A	C	8C
Q638	A	C	8C
Q639	B	C	8C
Q640	B	C	8C
Q641	B	C	8D
Q642	B	C	8D
Q643	B	C	9E
Q644	B	C	11E
Q645	B	C	7B
Q646	B	C	8B
Q647	B	C	10B
Q648	B	C	9B
Q649	B	C	10C
Q650	B	C	10C
Q651	B	C	9B
Q652	B	C	9C
Q653	A	C	11C
Q654	B	C	11D
Q655	B	C	11D
Q656	A	C	5B
Q657	B	C	5B
Q658	B	C	5B
Q659	B	C	4B
Q660	B	C	4B
Q661	B	C	2B
Q662	B	C	2B
Q663	B	C	3B
Q664	B	C	3B
Q665	A	C	4B
Q666	A	C	2C
Q667	A	C	2C
Q668	A	C	2D
Q669	A	C	4B
Q670	B	C	2C
Q671	A	C	4C
Q672	A	C	4C
Q673	A	C	1C
RESISTOR			
R601	A	C	7D
R602	A	C	6C
R603	A	C	6C
R604	A	C	6D
R605	A	C	5C
R606	A	C	6D
R607	A	C	6D
R608	A	C	6D
R609	A	C	5C
R610	A	C	7C
R611	A	C	6C
R612	A	C	5C
R613	B	C	7D
R614	B	C	7D
R615	B	C	7D
R616	B	C	6D
R617	B	C	6C
R618	B	C	6D
R619	B	C	6D
R620	B	C	5D
R621	B	C	5C
R622	B	C	6E
R623	A	C	6E
R625	B	C	6D
R626	B	C	6D
R627	B	C	4E
R628	B	C	3E
R629	B	C	3E
R630	B	C	6B
R631	B	C	6B
R632	B	C	7B
R633	B	C	2C
R634	B	C	3C
R635	B	C	3C
R636	B	C	3C
R637	B	C	4C
R638	B	C	4D
R639	B	C	4C
R640	B	C	2C
R641	B	C	3C
R642	B	C	3C
R643	B	C	4C
R644	B	C	4D
R645	B	C	4D
R646	A	C	3C
R647	A	C	3C
R648	A	C	4D
R649	A	C	3C
R650	A	C	3C
R651	A	C	3C
R652	A	C	4C
R653	A	C	4D
R654	A	C	4D
R655	B	C	2C
R656	B	C	3C
R657	B	C	3C
R658	B	C	4C
R659	B	C	3D
R660	B	C	3D
R661	B	C	3D
R662	B	C	2D
R663	B	C	2D
R664	B	C	2E
R665	A	C	8C
R666	A	C	9C
R667	A	C	8D
R668	A	C	9C
R669	A	C	9D
R670	A	C	7C
R671	B	C	9C
R672	B	C	8D
R673	B	C	8D
R674	B	C	8D
R675	B	C	8D
R676	B	C	7D
R677	B	C	9E
R678	B	C	9E
R680	B	C	8D
R681	A	C	11E
R682	B	C	11E
R683	B	C	10E
R684	B	C	7B
R685	B	C	7B
R686	B	C	10B
R687	B	C	11C
R688	B	C	9B
R689	B	C	9B
R690	B	C	10B
R691	B	C	11B
R692	B	C	9B
R693	B	C	9B
R694	B	C	11C
R695	B	C	9C
R696	A	C	11C
R697	A	C	11C
R698	A	C	9C
R699	A	C	9C
R700	B	C	10B
R701	A	C	10C
R702	A	C	11C
R703	B	C	11C
R704	A	C	5B
R705	B	C	4C
R706	B	C	10E
R707	B	C	5B
R708	B	C	5B
R709	B	C	5B
R710	B	C	4B
R711	B	C	4B
R712	B	C	4B
R713	B	C	4B
R714	B	C	4B
R715	B	C	1C
R716	B	C	1C
R717	A	C	1B
R718	B	C	1B
R719	B	C	1B
R720	B	C	1B
R721	B	C	2B
R722	B	C	2B
R723	B	C	2B
R724	B	C	2B
R725	B	C	2B
R726	B	C	3B
R727	B	C	3B
R728	B	C	3B
R730	B	C	4B
R731	B	C	6B
R732	A	C	2C
R733	A	C	4C
R734	A	C	2D
R735	A	C	1C
R736	B	C	10B
R737	B	C	10A
R738	B	C	10A
R739	B	C	9A
R740	B	C	9A
R741	B	C	9A
R742	B	C	9A
R743	B	C	8A
R744	B	C	8A
R745	B	C	8A
R746	B	C	3C
R747	B	C	3D
R748	B	C	10B
R749	B	C	3B
TEST POINT			
TP111	A	D	4E
TP112	A	D	8E
TP601	A	D	7E
TP602	A	D	8E
TP606	A	D	4E
TP616	A	D	9E

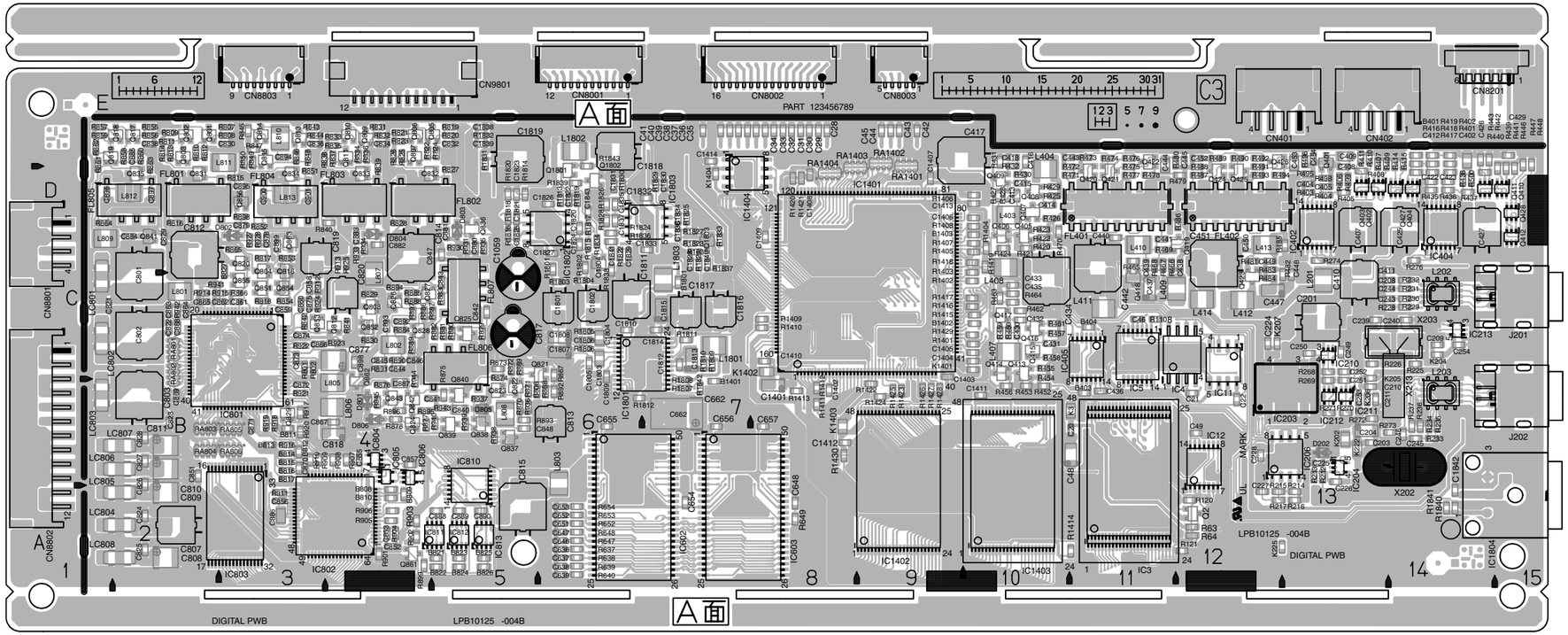
4.29 DIGITAL CIRCUIT BOARD

<50> DIGITAL
LPB10125-004B

—FOIL SIDE(B)—



—COMPONENT SIDE(A)—



COMPONENT PARTS LOCATION GUIDE <DIGITAL>

REF.NO.	LOCATION		
CAPACITOR			
C1	B	C	11B
C2	B	C	11B
C3	B	C	12C
C4	B	C	11C
C5	B	C	11D
C6	B	C	11D
C7	B	C	12C
C8	B	C	11C
C9	B	C	11D
C10	B	C	12D
C11	B	C	12D
C12	B	C	11C
C13	B	C	11B
C14	B	C	11C
C15	B	C	11C
C16	B	C	12D
C17	B	C	12C
C18	B	C	12B
C19	B	C	11C
C20	A	C	11B
C21	A	C	12B
C22	A	C	12B
C23	B	C	10D
C24	B	C	11D
C25	B	C	12D
C26	B	C	13E
C27	B	C	13D
C28	A	C	8E
C29	A	C	8E
C30	A	C	8E
C31	A	C	8E
C32	A	C	8E
C33	A	C	8E
C34	A	C	8E
C35	A	C	8E
C36	A	C	8E
C37	A	C	7E
C38	A	C	7E
C39	A	C	7E
C40	A	C	7E
C41	A	C	7E
C42	A	C	9E
C43	A	C	9E
C44	A	C	9E
C45	A	C	9E
C46	A	C	11C
C47	B	C	12B
C48	A	C	11B
C49	A	C	12B
C201	A	C	13C
C202	B	C	12B
C203	A	C	13B
C204	A	C	13B
C205	B	C	13D
C206	B	C	13D
C207	B	C	13D
C208	A	C	14C
C209	A	C	14C
C210	A	C	13B
C211	A	C	13B
C212	B	C	13B
C213	B	C	13B
C214	B	C	13D
C215	B	C	14D
C216	B	C	14B
C217	B	C	14D
C218	B	C	14D
C219	B	C	14D
C220	B	C	14D
C221	B	C	14D
C222	B	C	15D
C223	B	C	14D
C224	A	C	12C
C225	A	C	13B
C226	A	C	13B
C227	A	C	12A
C228	A	C	12B
C229	B	C	13B
C230	B	C	13B
C231	B	C	14A
C232	B	C	14A
C233	B	C	14B
C234	B	C	14A
C235	B	C	13A
C236	B	C	13A
C237	B	C	14C
C238	B	C	14C
C239	A	C	13C
C240	A	C	14C
C241	B	C	14C
C242	B	C	14C
C243	A	C	14C
C244	A	C	14C
C245	A	C	14B
C246	A	C	14B
C247	B	C	11A
C248	B	C	14D
C249	A	C	13C
C250	A	C	13C

REF.NO.	LOCATION		
C251	A	C	13B
C252	A	C	13C
C253	A	C	13B
C254	A	C	14C
C255	B	C	13D
C256	B	C	14D
C257	B	C	13A
C258	B	C	11A
C401	B	C	14D
C402	A	C	14D
C403	B	C	14D
C404	A	C	13D
C405	A	C	13D
C407	A	C	13D
C408	A	C	13D
C409	A	C	13E
C410	A	C	13C
C411	A	C	14C
C412	A	C	14D
C413	A	C	10D
C414	A	C	10D
C415	A	C	10D
C416	A	C	10E
C417	A	C	9E
C418	A	C	10E
C419	B	C	14E
C420	B	C	14E
C421	B	C	15E
C422	A	C	14D
C423	A	C	14D
C425	A	C	14D
C426	A	C	14E
C427	A	C	14D
C428	B	C	14D
C429	A	C	15E
C430	A	C	10C
C431	A	C	10C
C432	A	C	10C
C433	A	C	10C
C434	A	C	10C
C435	A	C	10C
C436	A	C	11B
C437	A	C	11C
C438	A	C	12D
C439	A	C	11D
C440	A	C	11D
C441	A	C	11D
C442	A	C	11D
C443	A	C	10E
C444	A	C	11D
C445	A	C	12E
C446	B	C	13D
C447	A	C	12C
C448	A	C	13C
C449	A	C	12D
C450	A	C	12D
C451	A	C	12D
C452	A	C	12E
C453	A	C	13E
C454	A	C	13E
C601	B	C	8C
C602	B	C	8C
C603	B	C	6A
C604	B	C	6A
C605	B	C	6B
C606	B	C	6B
C607	B	C	7B
C608	B	C	7B
C609	B	C	7B
C610	B	C	7B
C611	B	C	6C
C612	B	C	6C
C613	B	C	7D
C614	B	C	7D
C615	B	C	6C
C616	B	C	6C
C617	B	C	7D
C618	B	C	7D
C619	B	C	8C
C620	B	C	8C
C621	B	C	8C
C622	B	C	8C
C623	B	C	8C
C624	B	C	8C
C625	B	C	6C
C626	B	C	6D
C627	B	C	8D
C628	B	C	8C
C629	B	C	8D
C630	B	C	8D
C631	B	C	8B
C632	B	C	6D
C633	B	C	6C
C634	B	C	6D
C635	B	C	8D
C636	A	C	6A
C637	A	C	6A
C638	A	C	6A
C639	A	C	6A
C640	B	C	6A

REF.NO.	LOCATION		
C641	B	C	6A
C642	B	C	6A
C643	B	C	6A
C644	B	C	6A
C645	B	C	6A
C646	A	C	6A
C647	A	C	6A
C648	A	C	8A
C649	B	C	6A
C650	B	C	6A
C651	A	C	6A
C652	A	C	6A
C653	A	C	6A
C654	A	C	7A
C655	A	C	6B
C656	A	C	7B
C657	A	C	8B
C658	B	C	6A
C659	B	C	7B
C660	B	C	7A
C661	B	C	8B
C662	A	C	7B
C801	A	C	2C
C802	A	C	2C
C803	A	C	2B
C804	B	C	2C
C805	B	C	1C
C806	B	C	2D
C807	A	C	2A
C808	A	C	2A
C809	A	C	2A
C810	A	C	2B
C811	A	C	2B
C812	A	C	2D
C813	A	C	6B
C814	A	C	4D
C815	A	C	5A
C817	A	D	5C
C818	A	C	4B
C819	A	C	3D
C820	A	C	4C
C821	A	C	1C
C822	A	C	2C
C823	A	C	2B
C824	A	C	2A
C825	A	C	2A
C826	A	C	2A
C827	A	C	2B
C828	A	C	2B
C829	A	C	2D
C830	A	C	3E
C832	A	C	5E
C834	A	C	4E
C836	A	C	3E
C838	A	C	2E
C840	A	C	5B
C841	A	C	5B
C842	A	C	5C
C843	A	C	5C
C844	A	C	4C
C845	A	C	4C
C846	A	C	4C
C847	A	C	5D
C848	A	C	5B
C851	A	C	2B
C852	A	C	4A
C853	A	C	4A
C855	A	C	4B
C856	A	C	3A
C857	A	C	4B
C858	A	C	3C
C859	A	C	3C
C860	A	C	3C
C861	A	C	3C
C862	A	C	3C
C863	A	C	2C
C864	A	C	2C
C865	A	C	2C
C866	A	C	3C
C867	A	C	4B
C868	A	C	2C
C869	A	C	2B
C870	A	C	3B
C871	A	C	3B
C872	A	C	3B
C873	A	C	3C
C874	A	C	3C
C875	A	C	3C
C876	B	C	2D
C877	A	C	4C
C878	A	C	3D
C879	A	C	3D
C880	A	C	5D
C881	A	C	5D
C882	A	C	4D
C883	A	C	4D
C884	A	C	2D
C885	A	C	2E
C886	A	C	3A
C887	A	C	4B

REF.NO.	LOCATION		
C888	A	C	5A
C889	A	C	5A
C890	A	C	5A
C891	B	C	2C
C892	A	C	4C
C893	A	C	4C
C894	A	C	3E
C895	A	C	3D
C896	A	C	1D
C897	A	C	2D
C898	A	C	4C
C899	A	C	3D
C900	A	C	3D
C901	A	C	3D
C1001	B	C	4E
C1002	B	C	4E
C1003	B	C	4E
C1004	B	C	5E
C1005	B	C	3D
C1006	B	C	3D
C1007	B	C	3D
C1008	B	C	2E
C1009	B	C	2E
C1010	B	C	2E
C1011	B	C	4D
C1012	B	C	5D
C1013	B	C	5D
C1014	B	C	2B
C1015	B	C	2B
C1016	B	C	2C
C1017	B	C	2C
C1018	B	C	5A
C1019	B	C	5C
C1020	B	C	2C
C1021	B	C	2C
C1022	B	C	2D
C1023	B	C	4B
C1024	B	C	3B
C1025	B	C	5C
C1026	B	C	5C
C1027	B	C	4B
C1028	B	C	3B
C1029	B	C	5C
C1030	B	C	2C
C1031	B	C	2C
C1032	B	C	2A
C1033	B	C	2A
C1034	B	C	2B
C1035	B	C	3B
C1036	B	C	3A
C1037	B	C	3A
C1038	B	C	4A
C1039	B	C	4B
C1040	B	C	5A
C1041	B	C	5B
C1042	B	C	1A
C1043	B	C	1A
C1044	B	C	1A
C1045	B	C	1A
C1046	B	C	1A
C1047	B	C	1A
C1048	B	C	1A
C1049	B	C	1B
C1050	B	C	1B
C1051	B	C	1B
C1052	B	C	1B
C1053	B	C	1B
C1054	B	C	1B
C1055	B	C	1A
C1056	B	C	1A
C1057	B	C	1A
C1058	B	C	1A
C1060	B	C	2C
C1061	B	C	2D
C1062	B	C	2E
C1063	B	C	2E
C1064	B	C	5A
C1201	B	C	5A
C1202	B	C	5A
C1203	B	C	6B
C1206	B	C	5A
C1207	B	C	6B
C1401	A	C	8B
C1402	A	C	8B
C1403	A	C	9B
C1404	A	C	10C
C1405	A	C	10C
C1406	A	C	10D
C1407	A	C	9D
C1408	A	C	8D
C1409	A	C	8D
C1410	A	C	8C
C1411	A	C	10B
C1412	A	C	8B
C1413	A	C	10D
C1414	A	C	7E
C1601	B	C	10C
C1602	B	C	10C
C1603	B	C	9C
C1604	B	C	9C

REF.NO.	LOCATION		
C1605	B	C	9C
C1606	B	C	9C
C1607	B	C	9C
C1608	B	C	9C
C1609	B	C	9D
C1610	B	C	9D
C1611	B	C	9D
C1612	B	C	9D
C1613	B	C	10D
C1614	B	C	10D
C1615	B	C	10C
C1616	B	C	10C
C1701	B	C	10A
C1702	B	C	10A
C1703	B	C	10A
C1704	B	C	10A
C1705	B	C	9A
C1706	B	C	9A
C1707	B	C	9A
C1708	B	C	9B
C1709	B	C	9B
C1710	B	C	9B
C1711	B	C	10B
C1712	B	C	10B
C1713	B	C	10B
C1714	B	C	10B
C1715	B	C	10A
C1716	B	C	11A
C1801	A	C	6C
C1802	A	C	6C
C1803	A	C	6C
C1804	A	C	6C
C1805	A	C	6C
C1806	A	C	6C
C1807	A	C	6C
C1808	A	C	6C
C1809	A	C	6B
C1810	A	C	6C
C1811	A	C	6C
C1812	A	C	7C
C1813	A	C	7C
C1814	A	C	7C
C1815	A	C	7C
C1816	A	C	7C
C1817	A	C	7C
C1818	A	C	6E
C1819	A	C	5E
C1820	A	C	6D
C1821	A	C	5D
C1822	A	C	6D
C1823	A	C	5D
C1824	A	C	6D
C1825	A	C	5D
C1826	A	C	6D
C1827	A	C	6D
C1828	A	C	7D
C1829	A	C	6D
C1830	A	C	7D
C1831	A	C	6D
C1832	A	C	7D
C1833	A	C	7D
C1834	A	C	7D
C1835	A	C	6D
C1836	A	C	7D
C1837	A	C	6D
C1838	A	C	5E
C1839	A	C	5E
C1840	A	C	7D
C1841	A	C	6D
C1842	A	C	14A
C1843	A	C	6D
CONNECTOR			
CN401	A	C	13E
CN402	A	C	14E
CN8001	A	C	6E
CN8002	A	C	8E
CN8003	A	C	9E
CN8201	A	C	15E
CN8801	A	C	1D
CN8802	A	C	1C
CN8803	A	C	3E
CN9801	A	C	4E
DIODE			
D201	B	C	14D
D202	A	C	13B
D203	B	C	14A
D204	B	C	14A
D801	A	C	4B
D802	A	C	3D
D803	A	C	5D
D804	A	C	4D
D805	A	C	5B
D806	A	C	4B
D1001	B	C	2D
IC			
IC1	B	C	11C
IC2	B	C	12D
IC3	A	C	11B

REF.NO.	LOCATION		
IC4	A	C	12C
IC5	A	C	11C
IC6	B	C	11D
IC7	B	C	11D
IC8	B	C	12D
IC9	B	C	13D
IC10	B	C	13D
IC11	A	C	12C
IC12	A	C	12B
IC201	B	C	13C
IC202	B	C	12A
IC203	A	C	13B
IC204	A	C	13B
IC205	B	C	13B
IC206	A	C	13B
IC207	B	C	14A
IC208	B	C	13A
IC209	B	C	13A
IC210	A	C	13C
IC211	A	C	13B
IC212	A	C	13B
IC213	A	C	14C
IC214	B	C	13A
IC401	B	C	14D
IC402	A	C	13D
IC403	B	C	14E
IC404	A	C	14D
IC405	A	C	11C
IC406	B	C	13D
IC601	B	C	7C
IC602	A	C	6A
IC603	A	C	7A
IC604	B	C	6A
IC605	B	C	7A
IC606	B	C	8D
IC607	B	C	8D
IC801	A	C	3C
IC802	A	C	4A
IC803	A	C	3A
IC804	A	C	4B
IC805	A	C	4B
IC806	A	C	4B
IC808	B	C	1D
IC809	B	C	2B
IC810	A	C	5A
IC811	A	C	5A
IC812	A	C	5A
IC813	A	C	5A
IC814	B	C	2C
IC815	B	C	2D
IC1001	B	C	3C
IC1002	B	C	4A
IC1003	B	C	2A
IC1004	B	C	2C
IC1201	B	C	5B
IC1202	B	C	6B
IC1401	A	C	9C
IC1402	A	C	9B
IC1403	A	C	10B
IC1404	A	C	7D
IC1601	B	C	9D
IC1701	B	C	10B
IC1801	A	C	6C
IC1802	A	C	6D
IC1803	A	C	7D
IC1804	A	D	15A
JACK			
J201	A	D	14C
J202	A	D	14B
COIL			
L201	A	C	13C
L202	A	C	14C
L203	A	C	14B
L401	B	C	13D
L402	B	C	14D
L403	A	C	10D
L404	A	C	10D
L405	B	C	14D
L406	B	C	15E
L407	A	C	10C
L408	A	C	10D
L409	A	C	12C
L410	A	C	11D
L411	A	C	11C
L412	A	C	12C
L413	A	C	12D
L414	A	C	12C
L601	B	C	8C
L801	A	C	2C
L802	A	C	4C
L803	A	C	6A
L805	A	C	4B
L806	A	C	4B
L807	A	C	4C
L808	A	C	5B
L809	A	C	1D
L810	A	C	3E
L811	A	C	3E
L812	A	C	2D

REF.NO.	LOCATION		
L813	A	C	3D
L1001	B	C	5D
L1002	B	C	2E
L1801	A	C	7C
L1802	A	C	6E
L1803	A	C	7C
TRANSISTOR			
Q1	B	C	12C
Q2	A	C	12A
Q401	A	C	13E
Q402	A	C	13D
Q403	A	C	13D
Q404	A	C	14D
Q405	A	C	10D
Q406	A	C	10D
Q407	A	C	10D
Q408	A	C	10D
Q409	A	C	10D
Q410	A	C	15D
Q411	A	C	14D
Q412	A	C	15D
Q413	A	C	10C
Q414	A	C	10C
Q415	A	C	10C
Q416	A	C	10C
Q417	A	C	10C
Q418	A	C	11C
Q419	A	C	12D
Q420	A	C	11D
Q421	A	C	11D
Q422	A	C	11E
Q423	A	C	12C
Q424	A	C	12D
Q425	A	C	12D
Q426	A	C	12E
Q427	A	C	14D
Q428	A	C	15D
Q801	A	C	2E
Q802	A	C	2E
Q803	A	C	2E
Q804	A	C	3C
Q805	A	C	5E
Q806	A	C	4E
Q807	A	C	4E
Q808	A	C	4C
Q809	A	C	4E
Q810	A	C	4E
Q811	A	C	4E
Q812	A	C	4C
Q813	A	C	3E
Q814	A	C	3E
Q815	A	C	3E
Q816	A	C	3C
Q817	A	C	2E
Q818	A	C	2E
Q819	A	C	1E
Q820	A	C	3D
Q821	A	C	6C
Q822	A	C	5B
Q823	A	C	5B
Q824	A	C	4B
Q825	A	C	5C
Q826	A	C	4C
Q827	A	C	4C
Q828	A	C	4C
Q829	A	C	3B
Q831	A	C	2D
Q832	A	C	4D
Q833	A	C	4D
Q834	A	C	3D
Q835	A	C	2D
Q836	A	C	5D
Q837	A	C	5B
Q838	A	C	5B
Q839	A	C	5B
Q840	A	C	5B
Q841	A	C	2D
Q842	A	C	4B
Q843	A	C	4B
Q851	A	C	3C
Q852	A	C	4C
Q853	A	C	3C
Q854	A	C	3C
Q855	A	C	3C
Q856	A	C	3D
Q861	A	C	4A
Q862	A	C	4B
Q863	A	C	3D
Q1001	B	C	3E
Q1002	B	C	3E
Q1003	B	C	3E
Q1004	B	C	4E
Q1005	B	C	3E
Q1006	B	C	4E
Q1007	B	C	4E
Q1008	B	C	4E
Q1009	B	C	5E
Q1010	B	C	2E
Q1011	B	C	2E

REF.NO.	LOCATION		
Q1021	B	C	3E
Q1022	B	C	3E
Q1023	B	C	3E
Q1024	B	C	4E
Q1025	B	C	3E
Q1801	A	C	6D
Q1802	A	C	6D
Q1803	A	C	7D
Q1804	A	C	6D
RESISTOR			
R1	B	C	12C
R2	B	C	12C
R3	B	C	11B
R4	B	C	11B
R5	B	C	11B
R6	B	C	11B
R7	B	C	11C
R8	B	C	11D
R9	B	C	11D
R10	B	C	12C
R11	B	C	11C
R12	B	C	12B
R13	B	C	12B
R14	B	C	12B
R15	B	C	12B
R16	B	C	11D
R17	B	C	11D
R18	B	C	11C
R19	B	C	11D
R20	B	C	11D
R21	B	C	11C
R22	B	C	11D
R23	B	C	11C
R24	B	C	11D
R25	B	C	11C
R26	B	C	11D
R27	B	C	11B
R28	B	C	11D
R29	B	C	11D
R30	B	C	11D
R31	B	C	11C
R32	B	C	11D
R33	B	C	12D
R34	B	C	12D
R35	B	C	12D
R36	B	C	12C
R37	B	C	12C
R38	B	C	12C
R39	B	C	12C
R40	B	C	12C
R41	B	C	12C
R42	B	C	12C
R43	B	C	12C
R45	B	C	12D
R46	B	C	11C
R47	B	C	12D
R48	B	C	12D
R49	B	C	11C
R50	B	C	11C
R51	B	C	11C
R52	B	C	11C
R53	B	C	11C
R54	B	C	11C
R55	B	C	12D
R56	B	C	11C
R57	B	C	11C
R58	B	C	11C
R59	B	C	11C
R60	B	C	11C
R61	B	C	11C
R62	B	C	12C
R63	A	C	12A
R64	A	C	12A
R65	B	C	11D
R66	B	C	11D
R67	B	C	11D
R68	B	C	10D
R69	B	C	12D
R70	B	C	11D
R71	B	C	8E
R72	B	C	8E
R73	B	C	8E
R74	B	C	8E
R75	B	C	8E
R76	B	C	8E
R77	B	C	8E
R78	B	C	8E
R79	B	C	8E
R80	B	C	7E
R81	B	C	7E
R82	B	C	7E
R83	B	C	7E
R84	B	C	7E
R85	B	C	8E
R86	B	C	8E
R87	B	C	8E
R88	B	C	8E
R89	B	C	8E
R90	B	C	8E

REF.NO.	LOCATION		
R91	B	C	8E
R92	B	C	8E
R93	B	C	8E
R94	B	C	7E
R95	B	C	7E
R96	B	C	7E
R97	B	C	7E
R98	B	C	7E
R99	B	C	9E
R100	B	C	9E
R101	B	C	9E
R102	B	C	9E
R103	B	C	11B
R104	B	C	11B
R105	B	C	12B
R106	B	C	11B
R107	B	C	11B
R108	B	C	12B
R109	B	C	12D
R110	A	C	11C
R111	B	C	12B
R112	B	C	12B
R113	B	C	11C
R114	B	C	10B
R115	B	C	10C
R116	B	C	12B
R117	B	C	12B
R118	B	C	12D
R120	A	C	12A
R121	A	C	12A
R201	B	C	14C
R202	B	C	14C
R203	B	C	14D
R204	B	C	14D
R205	B	C	14D
R206	B	C	14D
R207	B	C	14D
R208	B	C	14D
R209	B	C	14D
R210	B	C	14D
R211	B	C	15D
R212	A	C	13B
R213	A	C	13B
R214	A	C	13A
R215	A	C	12A
R216	A	C	13A
R217	A	C	12A
R218	B	C	14A
R219	B	C	14A
R220	B	C	14A
R221	B	C	13B
R222	B	C	13B
R223	B	C	14C
R224	B	C	14C
R225	A	C	14C
R226	A	C	13C
R227	B	C	14C
R228	A	C	14C
R229	A	C	14C
R230	A	C	14C
R231	A	C	14C
R232	A	C	14C
R233	A	C	14B
R234	A	C	14B
R235	A	C	14B
R236	A	C	14B
R237	A	C	14B
R238	B	C	14B
R239	B	C	14B
R240	B	C	14B
R241	B	C	14B
R242	B	C	14B
R243	B	C	14B
R244	B	C	14B
R245	B	C	14B
R246	B	C	14B
R247	B	C	14B
R248	B	C	14B
R249	B	C	14B
R250	B	C	14B
R251	B	C	13B
R252	B	C	12B
R253	B	C	12B
R254	B	C	12D
R255	B	C	12D
R256	B	C	12D
R257	B	C	12C
R258	B	C	13B
R259	B	C	12C
R260	B	C	12C
R261	B	C	14D
R262	B	C	14D
R263	B	C	14D
R264	B	C	14D
R265	B	C	14D
R266	B	C	14D
R267	B	C	13D
R268	A	C	13C
R269	A	C	13B
R270	A	C	13B

REF.NO.	LOCATION		
R271	A	C	13B
R272	A	C	13B
R273	A	C	14B
R274	A	C	13D
R275	B	C	13D
R276	A	C	14D
R277	B	C	14D
R401	A	C	14D
R402	A	C	14E
R403	A	C	13D
R404	A	C	13D
R405	A	C	13D
R406	A	C	13D
R407	A	C	13D
R408	A	C	13D
R409	A	C	13D
R410	A	C	13E
R411	A	C	13E
R412	B	C	13D
R413	B	C	13D
R414	A	C	14D
R415	A	C	14D
R416	A	C	14D
R417	A	C	14D
R418	A	C	14D
R419	A	C	14E
R420	A	C	10D
R421	A	C	10D
R422	A	C	10D
R423	A	C	10D
R424	A	C	10D
R425	A	C	10D
R426	A	C	10D
R427	A	C	10D
R428	A	C	10D
R429	A	C	10D
R430	A	C	10D
R431	A	C	10E
R432	A	C	10D
R433	B	C	14E
R434	B	C	15E
R435	A	C	14D
R436	A	C	14D
R437	A	C	14D
R438	A	C	14D
R439	A	C	15D
R440	A	C	14D
R441	A	C	15D
R442	A	C	14E
R443	A	C	14E
R444	B	C	14D
R445	B	C	14E
R446	A	C	15D
R447	A	C	15D
R448	A	C	15D
R449	B	C	14E
R450	B	C	15E
R451	B	C	15E
R452	A	C	10B
R453	A	C	10B
R454	A	C	10B
R455	A	C	10C
R456	A	C	10B
R457	A	C	10C
R458	A	C	10C
R459	A	C	10C
R460	A	C	10C
R461	A	C	10C
R462	A	C	10C
R463	A	C	10C
R464	A	C	10C
R465	A	C	11D
R466	A	C	11D
R467	A	C	11D
R468	A	C	11D
R469	A	C	11D
R470	A	C	10D
R471	A	C	10D
R472	A	C	10D
R473	A	C	11E
R474	A	C	11E
R475	A	C	11D
R476	A	C	11E
R477	A	C	11D
R478	A	C	11D
R479	A	C	12D
R480	A	C	12E
R481	A	C	12D
R482	A	C	13C
R483	A	C	12D
R484	A	C	12C
R485	A	C	13D
R486	A	C	12D
R487	A	C	12D
R488	A	C	12D
R489	A	C	12E
R490	A	C	12E
R491	A	C	12D
R492	A	C	12E
R493	A	C	12D

REF.NO.	LOCATION		
R494	A	C	12D
R495	A	C	13D
R496	A	C	13E
R497	B	C	13E
R498	A	C	13D
R499	A	C	13D
R500	A	C	14D
R601	B	C	8D
R602	B	C	6C
R603	B	C	8D
R604	B	C	8D
R605	B	C	8D
R606	B	C	8C
R607	B	C	8C
R608	B	C	8C
R609	B	C	8C
R610	B	C	8C
R611	B	C	8C
R612	B	C	6D
R613	B	C	6C
R614	B	C	6C
R615	B	C	6D
R616	B	C	8C
R617	B	C	6C
R618	B	C	8C
R619	B	C	6C
R620	B	C	6C
R621	B	C	8D
R622	B	C	8D
R623	B	C	7D
R624	B	C	8D
R625	B	C	7D
R626	B	C	7D
R627	B	C	6D
R628	B	C	7D
R629	B	C	6D
R630	B	C	6D
R631	B	C	6D
R632	B	C	6D
R633	B	C	8D
R634	B	C	8D
R635	B	C	8C
R636	B	C	8C
R637	A	C	6A
R638	A	C	6A
R639	A	C	6A
R640	A	C	6A
R641	B	C	6A
R642	B	C	6A
R643	B	C	6A
R644	B	C	6A
R645	B	C	6A
R646	B	C	6A
R647	A	C	6A
R648	A	C	6A
R649	A	C	8A
R650	B	C	6A
R651	B	C	6A
R652	A	C	6A
R653	A	C	6A
R654	A	C	6A
R655	B	C	8D
R656	B	C	8D
R657	B	C	6D
R801	A	C	3C
R802	A	C	3C
R803	B	C	2B
R804	B	C	2B
R806	B	C	1D
R807	A	C	3E
R808	A	C	3E
R809	A	C	2E
R810	A	C	2E
R811	A	C	2E
R812	A	C	2E
R813	A	C	2E
R814	A	C	2E
R815	A	C	3D
R816	A	C	2D
R817	A	C	3D
R818	A	C	3C
R819	A	C	5E
R820	A	C	5E
R821	A	C	4E
R822	A	C	4E
R823	A	C	4E
R824	A	C	5E
R825	A	C	4E
R826	A	C	4E
R827	A	C	5D
R828	A	C	4D
R829	A	C	4C
R830	A	C	4C
R831	A	C	4E
R832	A	C	4E
R833	A	C	4E
R834	A	C	4E
R835	A	C	4E
R836	A	C	4E
R837	A	C	4E

REF.NO.	LOCATION		
R838	A	C	3E
R839	A	C	4D
R840	A	C	4D
R841	A	C	4C
R842	A	C	3C
R843	A	C	3E
R844	A	C	3E
R845	A	C	3E
R846	A	C	3E
R847	A	C	3E
R848	A	C	3E
R849	A	C	3E
R850	A	C	3E
R851	A	C	3D
R852	A	C	3D
R853	A	C	3D
R854	A	C	3C
R855	A	C	2E
R856	A	C	2E
R857	A	C	1E
R858	A	C	2E
R859	A	C	1E
R860	A	C	2E
R861	A	C	1D
R862	A	C	1E
R863	A	C	2D
R864	A	C	1D
R865	A	C	3D
R866	A	C	3C
R867	A	C	6C
R868	A	C	6B
R869	A	C	5C
R870	A	C	5B
R871	A	C	5B
R872	A	C	5C
R873	A	C	5C
R874	A	C	5B
R875	A	C	5B
R876	A	C	4B
R877	A	C	4B
R878	A	C	4B
R879	A	C	5C
R880	A	C	5C
R881	A	C	5C
R882	A	C	5C
R883	A	C	5C
R884	A	C	4C
R885	A	C	4C
R886	A	C	4C
R887	A	C	5C
R888	A	C	4C
R889	A	C	4C
R890	A	C	4C
R891	A	C	4C
R892	A	C	6B
R893	A	C	5B
R894	A	C	4C
R895	A	C	4B
R896	A	C	4B
R897	A	C	4C
R898	A	C	3D
R899	A	C	4A
R901	A	C	4A
R902	A	C	4A
R903	A	C	4A
R904	A	C	4A
R905	A	C	4A
R906	A	C	4A
R907	A	C	4B
R908	A	C	4B
R909	A	C	3B
R910	A	C	3B
R911	A	C	3A
R912	A	C	3C
R913	A	C	4D
R914	A	C	2C
R915	A	C	3C
R916	A	C	3B
R917	A	C	3B
R918	A	C	3B
R919	A	C	3B
R920	A	C	3B
R921	A	C	3B
R922	A	C	3C
R923	A	C	4C
R924	A	C	3C
R925	A	C	4D
R927	A	C	3D
R928	A	C	3D
R930	A	C	5D
R931	A	C	5D
R933	A	C	4D
R934	A	C	4D
R935	A	C	5D
R936	A	C	5B
R937	A	C	5B
R938	A	C	5B
R939	A	C	5B
R940	A	C	5B
R941	A	C	2C

REF.NO.	LOCATION		
R942	A	C	2C
R943	A	C	5B
R944	A	C	4B
R945	A	C	4B
R946	B	C	2C
R947	B	C	2C
R948	B	C	2D
R949	B	C	2D
R950	B	C	2C
R1001	B	C	3E
R1002	B	C	3E
R1003	B	C	3E
R1004	B	C	4E
R1005	B	C	3E
R1006	B	C	2C
R1007	B	C	4E
R1008	B	C	4E
R1009	B	C	4E
R1010	B	C	4D
R1011	B	C	4D
R1012	B	C	4D
R1013	B	C	4D
R1014	B	C	4E
R1015	B	C	4E
R1016	B	C	5E
R1017	B	C	4D
R1018	B	C	4D
R1019	B	C	5D
R1020	B	C	5D
R1021	B	C	3D
R1022	B	C	3D
R1023	B	C	3D
R1024	B	C	4D
R1025	B	C	4D
R1026	B	C	2E
R1027	B	C	2D
R1028	B	C	2D
R1029	B	C	3E
R1030	B	C	3D
R1031	B	C	2E
R1032	B	C	2E
R1033	B	C	2E
R1034	B	C	2E
R1035	B	C	2E
R1036	B	C	2C
R1037	B	C	2C
R1038	B	C	5C
R1039	B	C	5C
R1040	B	C	2C
R1041	B	C	3B
R1042	B	C	4B
R1043	B	C	2A
R1044	B	C	2A
R1045	B	C	2A
R1046	B	C	2A
R1047	B	C	2A
R1048	B	C	2A
R1049	B	C	2A
R1050	B	C	2B
R1051	B	C	2B
R1052	B	C	2B
R1053	B	C	2B
R1054	B	C	2B
R1055	B	C	2B
R1056	B	C	2A
R1057	B	C	2A
R1058	B	C	2A
R1059	B	C	2A
R1060	B	C	5C
R1061	B	C	4E
R1062	B	C	4E
R1063	B	C	2B
R1064	B	C	2B
R1065	B	C	2B
R1066	B	C	5D
R1067	B	C	5D
R1068	B	C	5D
R1069	B	C	5D
R1070	B	C	2D
R1201	B	C	5B
R1202	B	C	5A
R1203	B	C	5B
R1205	B	C	5B
R1206	B	C	6B
R1401	A	C	10C
R1402	A	C	10C
R1403	A	C	10C
R1404	A	C	10D
R1405	A	C	10D
R1406	A	C	10D
R1407	A	C	10D
R1408	A	C	10D
R1409	A	C	8C
R1410	A	C	8C
R1411	A	C	8B
R1412	A	C	8B
R1413	A	C	8B
R1414	A	C	11A
R1415	A	C	10C
R1416	A	C	10C

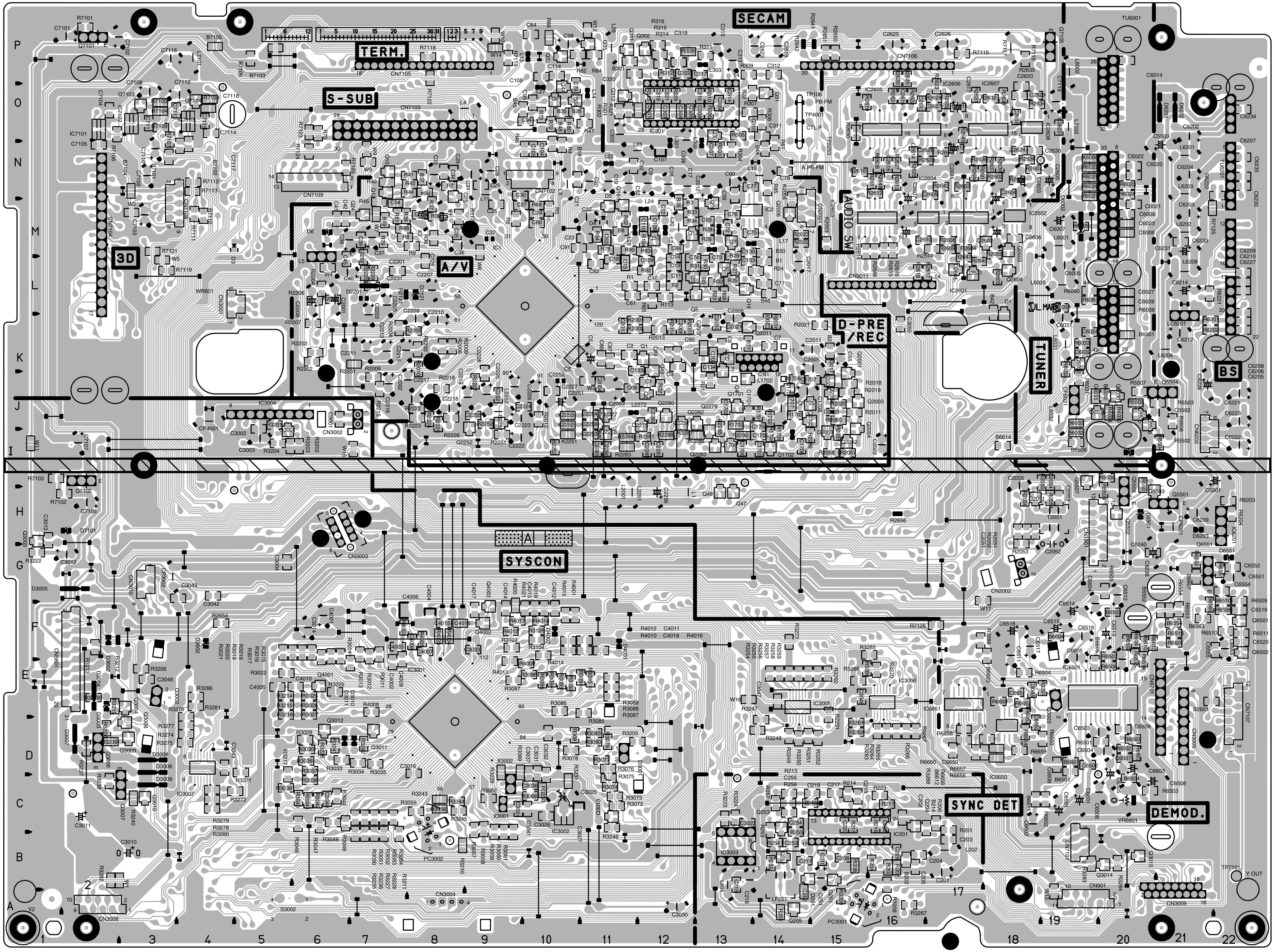
REF.NO.	LOCATION		
R1417	A	C	10C
R1418	A	C	10D
R1419	A	C	10D
R1420	A	C	8D
R1421	A	C	8D
R1422	A	C	9B
R1423	A	C	9B
R1424	A	C	9B
R1425	A	C	9B
R1426	A	C	9B
R1427	A	C	9B
R1428	A	C	9B
R1429	A	C	10C
R1430	A	C	8B
R1601	B	C	10C
R1602	B	C	10C
R1603	B	C	10C
R1604	B	C	10C
R1605	B	C	9C
R1606	B	C	9C
R1607	B	C	9C
R1608	B	C	9C
R1609	B	C	9C
R1610	B	C	9D
R1611	B	C	9D
R1612	B	C	9D
R1613	B	C	10D
R1614	B	C	10D
R1615	B	C	10D
R1616	B	C	10D
R1617	B	C	10D
R1618	B	C	10D
R1619	B	C	10C
R1620	B	C	10C
R1621	B	C	10C
R1622	B	C	10C
R1623	B	C	10C
R1624	B	C	10C
R1625	B	C	10C
R1626	B	C	10D
R1627	B	C	10D
R1628	B	C	10D
R1629	B	C	10C
R1630	B	C	10C
R1631	B	C	10C
R1632	B	C	10C
R1633	B	C	10C
R1634	B	C	10C
R1701	B	C	10A
R1702	B	C	10A
R1703	B	C	10A
R1704	B	C	10A
R1705	B	C	10A
R1706	B	C	10A
R1707	B	C	9A
R1708	B	C	9A
R1709	B	C	9A
R1710	B	C	9B
R1711	B	C	9B
R1712	B	C	9B
R1713	B	C	10B
R1714	B	C	11B
R1715	B	C	10B
R1716	B	C	10B
R1717	B	C	10B
R1718	B	C	10B
R1719	B	C	10A
R1720	B	C	10A
R1721	B	C	10A
R1722	B	C	10A
R1723	B	C	10A
R1724	B	C	10A
R1725	B	C	10A
R1726	B	C	11B
R1727	B	C	11B
R1728	B	C	11B
R1729	B	C	11A
R1730	B	C	11A
R1731	B	C	11A
R1732	B	C	11A
R1733	B	C	11A
R1734	B	C	11A
R1801	A	C	6D
R1802	A	C	6D
R1803	A	C	6C
R1804	A	C	6C
R1805	A	C	6C
R1806	A	C	6C
R1807	A	C	7B
R1808	A	C	7B
R1809	A	C	7C
R1810	A	C	7C
R1811	A	C	7C
R1812	A	C	6B
R1813	A	C	6D
R1814	A	C	5D
R1815	A	C	6D
R1816	A	C	5D
R1817	A	C	6D
R1818	A	C	5D

REF.NO.	LOCATION		
R1819	A	C	6D
R1820	A	C	5D
R1821	A	C	7D
R1822	A	C	6D
R1823	A	C	7D
R1824	A	C	6D
R1825	A	C	7D
R1826	A	C	6D
R1827	A	C	7D
R1828	A	C	6D
R1829	A	C	7D
R1830	A	C	6D
R1831	A	C	5D
R1832	A	C	5E
R1833	A	C	7D
R1834	A	C	6D
R1835	A	C	7D
R1836	A	C	6D
R1837	A	C	7D
R1838	A	C	6C
R1839	A	C	6D
R1840	A	C	14A
R1841	A	C	14A
R1842	A	C	7B
R1843	A	C	6D
RESISTOR ARRAY			
RA1	B	C	12D
RA201	B	C	14B
RA202	B	C	13B
RA203	B	C	13B
RA204	B	C	13B
RA205	B	C	13B
RA206	B	C	12C
RA207	B	C	12C
RA208	B	C	12C
RA209	B	C	12C
RA210	B	C	13D
RA211	B	C	13D
RA212	B	C	13D
RA213	B	C	12D
RA214	B	C	12D
RA215	B	C	13D
RA216	B	C	12D
RA601	B	C	6C
RA602	B	C	6C
RA603	B	C	6C
RA604	B	C	6C
RA605	B	C	7D
RA606	B	C	7D
RA607	B	C	7D
RA608	B	C	7D
RA609	B	C	7D
RA610	B	C	7D
RA611	B	C	6D
RA612	B	C	7D
RA613	B	C	6D
RA801	A	C	2C
RA802	A	C	2C
RA803	A	C	2B
RA804	A	C	2B
RA805	A	C	3B
RA806	A	C	3B
RA1001	B	C	5D
RA1003	B	C	5D
RA1004	B	C	5D
RA1401	A	C	9D
RA1402	A	C	9E
RA1403	A	C	8D
RA1404	A	C	8D
RA1601	B	C	9C
RA1602	B	C	9C
RA1603	B	C	9D
RA1701	B	C	9A
RA1702	B	C	9A
RA1703	B	C	9A
TEST POINT			
TP1	B	C	10C
TP2	B	C	11B
TP3	B	C	11B
TP4	B	C	11B
TP5	B	C	10B
OTHER			
FL401	A	C	11D
FL402	A	C	12D
FL801	A	C	2D
FL802	A	C	4D
FL803	A	C	4D
FL804	A	C	3D
FL805	A	C	2D
FL806	A	C	5C
FL807	A	C	5C
K1	B	C	12C
K2	B	C	11B
K3	A	C	11B
K201	B	C	12C
K202	A	C	13B
K203	B	C	13D
K204	A	C	14C

REF.NO.	LOCATION		
K205	A	C	13B
K206	A	C	13B
K207	A	C	12C
K208	B	C	14A
K209	B	C	13A
K210	B	C	14A
K211	B	C	14A
K212	B	C	14A
K213	B	C	13A
K214	B	C	13A
K215	B	C	13A
K216	B	C	13A
K217	B	C	13A
K218	B	C	12A
K219	B	C	13A
K220	B	C	13A
K221	B	C	12A
K222	A	C	13B
K223	B	C	14B
K224	B	C	14B
K225	A	C	13A
K601	B	C	8C
K602	B	C	6A
K603	B	C	6B
K604	B	C	6B
K1001	B	C	2C
K1002	B	C	5A
K1003	B	C	2B
K1004	B	C	5C
K1005	B	C	2C
K1201	B	C	5A
K1202	B	C	5A
K1401	A	C	10C
K1402	A	C	8C
K1403	A	C	8B
K1404	A	C	7D
K1601	B	C	9C
K1602	B	C	9C
K1603	B	C	9C
K1701	B	C	9A
K1702	B	C	9A
K1703	B	C	10A
LC801	A	C	1C
LC802	A	C	1C
LC803	A	C	1B
LC804	A	C	2A
LC805	A	C	2A
LC806	A	C	2B
LC807	A	C	2B
LC808	A	C	2A
X1	B	C	11D
X201	B	C	15D
X202	A	D	13B
X203	A	C	14C
X211	B	C	15D
X213	A	C	14C
X601	B	C	8D
X611	B	C	8D

4.30 MAIN CIRCUIT BOARD

<03> MAIN
LPB10135-001C



COMPONENT PARTS LOCATION GUIDE <MAIN>

REF.NO.	LOCATION		
CAPACITOR			
C1	B	C	12J
C2	B	C	11K
C3	B	C	12K
C4	B	C	13K
C5	A	D	11K
C6	B	C	10K
C7	B	C	14K
C8	B	C	13K
C9	A	D	12N
C10	B	C	12L
C11	B	C	12L
C12	B	C	12M
C13	B	C	12L
C14	B	C	12L
C15	B	C	11L
C16	B	C	11L
C17	A	D	12N
C18	A	D	12N
C19	A	D	11N
C20	A	D	11N
C21	B	C	10N
C22	A	D	11M
C23	B	C	11M
C24	B	C	10M
C25	B	C	9M
C26	B	C	9N
C27	B	C	9M
C28	A	D	9N
C29	B	C	8N
C30	B	C	9N
C31	A	D	9N
C32	A	D	9M
C33	A	D	8N
C34	B	C	8N
C35	B	C	8M
C36	A	D	8M
C37	A	D	7M
C38	A	D	7M
C39	B	C	7M
C40	A	D	7L
C41	B	C	6M
C42	B	C	6M
C45	B	C	6L
C52	A	D	11N
C53	B	C	8M
C54	B	C	7M
C59	B	C	13N
C60	A	D	13N
C61	B	C	11L
C62	B	C	11L
C63	B	C	11M
C64	B	C	10P
C65	A	D	15K
C69	B	C	11J
C70	B	C	13K
C71	B	C	14L
C72	B	C	13M
C73	B	C	13L
C74	B	C	12L
C75	B	C	13M
C76	B	C	13M
C77	B	C	13N
C78	B	C	14N
C79	B	C	10O
C80	B	C	10M
C84	B	C	12M
C87	B	C	11K
C88	B	C	11K
C89	B	C	12K
C90	B	C	12K
C91	B	C	10M
C92	B	C	11N
C93	B	C	13M
C94	B	C	10O
C95	B	C	10O
C98	A	D	10P
C103	B	C	13L
C104	B	C	10N
C105	B	C	10N
C106	B	C	12M
C107	B	C	12N
C108	B	C	10P
C109	B	C	12L
C110	B	C	12M
C114	B	C	10P
C125	B	C	8L
C130	B	C	13M
C133	B	C	11K
C134	B	C	13K
C201	A	D	17B
C202	B	C	16C
C203	B	C	17B
C204	B	C	16B
C205	B	C	16B
C208	B	C	15B
C210	B	C	15B
C211	B	C	14B
C215	B	C	13B
C216	A	D	13B
C217	B	C	15C
C218	B	C	15C
C219	B	C	15C
C220	B	C	15C
C222	B	C	16C
C225	B	C	16B
C251	A	D	15B
C252	B	C	14A
C253	B	C	14B
C254	B	C	14C
C255	B	C	14C
C301	B	C	12O
C302	A	D	11O
C303	B	C	12O

REF.NO.	LOCATION		
C304	B	C	12O
C305	B	C	12O
C306	A	D	12O
C307	B	C	13N
C308	B	C	13O
C309	B	C	13O
C310	B	C	14O
C311	B	C	14O
C312	B	C	14P
C313	A	D	13P
C314	B	C	13O
C315	A	D	13P
C316	B	C	13O
C317	B	C	13P
C318	B	C	12O
C319	B	C	12P
C320	B	C	11P
C321	B	C	12O
C322	B	C	12P
C1701	B	C	13J
C1702	B	C	13J
C1703	B	C	14I
C1704	B	C	14J
C1705	B	C	14I
C1706	B	C	14I
C1707	B	C	15J
C1708	A	D	14J
C1709	B	C	13I
C2001	A	D	6L
C2002	A	D	8J
C2003	A	D	11J
C2004	B	C	11J
C2005	A	D	14K
C2006	B	C	12K
C2007	A	D	13K
C2008	A	D	13K
C2009	B	C	14K
C2010	B	C	13K
C2011	A	D	14K
C2012	A	D	13N
C2013	B	C	11K
C2016	B	C	12K
C2017	A	D	14L
C2021	B	C	13K
C2022	A	D	16I
C2051	B	C	18H
C2052	A	D	19H
C2053	B	C	19H
C2054	B	C	19I
C2055	A	D	18I
C2201	B	C	7L
C2202	B	C	7L
C2203	A	D	7L
C2204	A	D	7L
C2205	A	D	7L
C2207	A	D	8L
C2208	A	D	6L
C2209	A	D	8K
C2210	A	D	8K
C2211	A	D	7K
C2212	A	D	7K
C2215	A	D	7K
C2216	A	D	7J
C2217	A	D	8J
C2218	A	D	8J
C2219	A	D	9J
C2220	A	D	9J
C2221	B	C	9J
C2222	A	D	9I
C2223	A	D	9J
C2224	B	C	10J
C2225	A	D	9J
C2226	A	D	10J
C2227	B	C	10J
C2228	B	C	9J
C2231	B	C	7L
C2251	A	D	10J
C2252	A	D	10J
C2253	B	C	11I
C2254	B	C	11J
C2255	B	C	9J
C2256	A	D	12H
C2258	B	C	11J
C2282	B	C	12J
C2283	B	C	12I
C2285	B	C	11I
C2286	B	C	11I
C2287	B	C	12I
C2601	A	D	18N
C2602	A	D	18M
C2603	A	D	18N
C2604	B	C	18N
C2605	A	D	19N
C2606	B	C	18M
C2607	A	D	16N
C2608	A	D	16M
C2609	B	C	17N
C2610	B	C	16M
C2611	B	C	17O
C2612	B	C	17N
C2613	B	C	16O
C2614	B	C	16N
C2615	B	C	16O
C2616	B	C	16N
C2617	A	D	17O
C2618	B	C	18O
C2619	A	D	14P
C2620	B	C	18O
C2621	A	D	17O
C2622	B	C	19O
C2623	A	D	14P
C2624	B	C	18N
C2625	A	D	16P
C2626	A	D	17P

REF.NO.	LOCATION		
C2627	B	C	17O
C2628	B	C	17N
C2629	B	C	18O
C2630	B	C	18N
C3001	B	C	6J
C3002	B	C	5J
C3003	A	D	5I
C3004	B	C	5G
C3010	A	D	3B
C3011	A	D	2C
C3012	A	D	2G
C3013	B	C	1H
C3014	A	D	6F
C3016	B	C	8D
C3022	B	C	13C
C3024	B	C	9C
C3025	A	D	10C
C3026	B	C	10C
C3027	B	C	10C
C3030	A	D	12A
C3031	B	C	10D
C3032	B	C	10D
C3033	B	C	9F
C3036	B	C	10C
C3037	B	C	10D
C3040	B	C	6C
C3041	B	C	10C
C3042	B	C	4G
C3043	B	C	4G
C3045	B	C	18E
C3046	B	C	3E
C3047	B	C	14E
C3048	B	C	15E
C3049	B	C	4D
C3050	B	C	16K
C4001	A	D	6F
C4002	B	C	7E
C4003	B	C	7F
C4004	B	C	8F
C4005	B	C	5E
C4006	B	C	8F
C4007	B	C	8F
C4008	B	C	8F
C4009	B	C	7F
C4010	B	C	6E
C4011	B	C	11F
C4012	B	C	10F
C4013	B	C	10F
C4014	B	C	9F
C4015	B	C	8F
C4016	B	C	8F
C4017	B	C	9F
C4018	B	C	11F
C5501	A	D	21I
C5502	A	D	21J
C5503	A	D	20N
C6005	A	D	19L
C6006	B	C	20M
C6007	A	D	19M
C6008	B	C	20M
C6014	B	C	20P
C6020	B	C	20N
C6021	B	C	20M
C6022	B	C	20N
C6023	B	C	20M
C6024	B	C	19K
C6027	B	C	20L
C6028	B	C	20L
C6032	B	C	19K
C6033	B	C	19J
C6037	A	D	19K
C6202	A	D	21O
C6203	A	D	21M
C6204	A	D	21N
C6205	B	C	22K
C6206	B	C	22K
C6207	B	C	22N
C6208	B	C	22L
C6209	B	C	22L
C6210	B	C	22L
C6212	A	D	21K
C6214	A	D	21L
C6221	A	D	22J
C6222	A	D	22I
C6223	A	D	22J
C6227	B	C	22L
C6228	A	D	21J
C6230	B	C	22N
C6231	A	D	21M
C6233	B	C	21M
C6234	B	C	22O
C6235	B	C	22N
C6238	A	D	20G
C6239	A	D	21H
C6240	B	C	20G
C6501	A	D	19C
C6502	B	C	19D
C6503	A	D	20D
C6504	A	D	20D
C6505	A	D	20D
C6506	A	D	20C
C6507	B	C	20D
C6508	A	D	20C
C6509	B	C	20D
C6510	A	D	20E
C6511	A	D	18E
C6512	A	D	20G
C6513	A	D	20F
C6514	A	D	19F
C6515	A	D	19F
C6516	A	D	19F
C6517	A	D	18F
C6518	A	D	18F
C6519	B	C	22F

REF.NO.	LOCATION		
C6520	B	C	22F
C6551	A	D	22G
C6552	B	C	22G
C6553	A	D	22F
C6554	B	C	22G
C6555	B	C	22F
C6601	A	D	19C
C6602	A	D	18C
C6603	A	D	20D
C6604	A	D	19F
C6605	A	D	19F
C6608	B	C	19D
C6650	B	C	18D
C6651	B	C	18E
C6652	B	C	18D
C7101	A	D	2P
C7102	A	D	3P
C7103	A	D	3M
C7104	B	C	2O
C7105	B	C	2N
C7106	A	D	2H
C7107	A	D	2I
C7108	A	D	3O
C7109	A	D	3N
C7110	A	D	3N
C7111	B	C	3O
C7112	A	D	3O
C7113	B	C	3O
C7114	B	C	4O
C7115	B	C	4O
C7116	A	D	3P
C7117	B	C	4N
C7118	B	C	4O
C7119	A	D	19O
CONNECTOR			
CN1	A	D	14K
CN901	A	D	20A
CN1901	A	D	19G
CN2001	A	D	15N
CN2002	A	D	18G
CN3001	A	D	4L
CN3002	A	D	7J
CN3003	A	D	6H
CN3004	A	D	8A
CN3005	A	D	21D
CN3008	A	D	3A
CN3009	A	D	20B
CN3010	A	D	3G
CN3011	A	D	15L
CN5601	A	D	2F
CN6202	A	D	21I
CN6701	A	D	21D
CN7101	A	D	19B
CN7102	A	D	9N
CN7103	A	D	9O
CN7104	A	D	2N
CN7105	A	D	9P
CN7106	A	D	17P
CN7107	A	D	22D
CN7108	A	D	4N
CN7109	A	D	6N
DIODE			
D1	B	C	18L
D3	B	C	5M
D4	B	C	11M
D5	B	C	11M
D6	A	D	6M
D251	B	C	14B
D2001	B	C	15J
D2121	A	D	8L
D2201	A	D	7L
D2601	B	C	17L
D2602	A	D	4F
D3001	A	D	11D
D3002	A	D	2F
D3003	A	D	2E
D3004	A	D	2E
D3005	A	D	1G
D3006	A	D	3D
D3007	A	D	2D
D3008	A	D	3D
D3009	A	D	3C
D3010	A	D	7D
D3011	A	D	6D
D4001	A	D	11F
D4002	A	D	10F
D5501	A	D	20H
D5502	A	D	20I
D6002	A	D	19M
D6201	A	D	21O
D6202	A	D	21O
D6203	A	D	21H
D6551	A	D	22G
D7101	A	D	1H
IC			
IC1	B	C	10L
IC2	B	C	13M
IC201	A	D	16B
IC301	A	D	12P
IC2601	B	C	17M
IC2602	B	C	18M
IC2603	B	C	16M
IC2604	B	C	17M
IC2605	B	C	16O
IC2606	B	C	17O
IC2607	B	C	18O
IC2608	B	C	18O
IC3001	B	C	8D
IC3002	B	C	10C
IC3003	A	D	13B
IC3004	A	D	6J
IC3005	B	C	14E

REF.NO.	LOCATION		
IC3006	B	C	16E
IC3007	B	C	4D
IC6201	A	D	22H
IC6501	B	C	20E
IC6650	B	C	18D
IC6651	B	C	17E
IC7101	B	C	2O
IC7102	B	C	3O
IC7103	B	C	4O
COIL			
L1	A	D	12H
L2	A	D	12M
L3	A	D	10N
L4	A	D	8O
L5	A	D	6L
L11	A	D	9N
L12	A	D	9M
L13	A	D	10P
L14	A	D	11P
L15	A	D	14N
L17	A	D	13M
L18	A	D	13M
L19	A	D	13M
L20	A	D	12M
L22	A	D	11N
L24	A	D	11M
L25	A	D	12N
L26	A	D	11P
L27	A	D	10O
L28	A	D	11M
L201	A	D	13B
L202	A	D	17B
L301	A	D	12N
L302	A	D	13O
L303	A	D	13P
L1701	A	D	14I
L1702	A	D	14J
L2001	A	D	11H
L2251	A	D	11H
L2252	A	D	9J
L2272	A	D	12J
L6001	A	D	19M
L6002	A	D	19P
L6005	A	D	19L
L6031	A	D	19K
L6032	A	D	19J
L6201	A	D	21N
L6202	A	D	21M
L6203	A	D	21N
L6204	A	D	21K
L6208	A	D	21L
L7101	A	D	4P
L7102	A	D	19O
TRANSISTOR			
Q1	B	C	12K
Q2	B	C	12J
Q3	B	C	13K
Q4	B	C	13J
Q5	B	C	13L
Q7	B	C	13M
Q8	B	C	13L
Q9	B	C	12L
Q10	B	C	7N
Q12	B	C	7N
Q14	B	C	13L
Q16	B	C	13M
Q17	B	C	12M
Q18	B	C	11M
Q21	B	C	10O
Q24	B	C	7M
Q25	B	C	8N
Q31	B	C	14O
Q32	B	C	10P
Q34	B	C	10O
Q35	B	C	11P
Q38	B	C	12M
Q41	B	C	10O
Q46	B	C	13H
Q47	B	C	13H
Q48	B	C	12K
Q49	B	C	13K
Q204	B	C	16C
Q205	B	C	14A
Q251	B	C	15B
Q252	B	C	14B
Q253	B	C	14C
Q301	B	C	13O
Q302	B	C	12P
Q311	B	C	11P
Q312	B	C	11O
Q1701	B	C	13J
Q1702	B	C	14I
Q1703	B	C	14J
Q1704	B	C	14J
Q1705	B	C	15J
Q1706	B	C	13I
Q2001	B	C	15J
Q2002	B	C	15J
Q2003	B	C	15J
Q2004	B	C	15J
Q2006	B	C	14M
Q2011	B	C	13K
Q2051	B	C	18H
Q2052	B	C	15I
Q2053	B	C	15I
Q2054	B	C	15J
Q2251	B	C	9J
Q2252	B	C	9J
Q2275	B	C	12J
Q2277	B	C	11J
Q2278	B	C	11I
Q2279	B	C	13I
Q2280	B	C	12J

REF.NO.	LOCATION		
Q2281	B	C	12J
Q2282	B	C	13J
Q2283	B	C	13I
Q2601	B	C	17L
Q2602	B	C	18M
Q2603	B	C	18M
Q2604	B	C	18L
Q3001	B	C	5I
Q3002	A	D	3E
Q3003	A	D	19E
Q3004	B	C	3E
Q3005	B	C	1H
Q3006	A	D	2D
Q3007	A	D	3C
Q3008	B	C	3D
Q3009	B	C	3D
Q3010	B	C	3C
Q3011	B	C	7D
Q3012	B	C	6D
Q3013	B	C	11C
Q3014	B	C	20B
Q3015	B	C	20B
Q4001	B	C	6E
Q4002	B	C	9F
Q4003	B	C	9F
Q5501	A	D	21H
Q5502	B	C	20H
Q5503	B	C	20H
Q5504	A	D	20J
Q5505	B	C	20J
Q5506	B	C	20J
Q5507	B	C	19I
Q5508	A	D	20H
Q6030	B	C	20J
Q6031	B	C	19J
Q6032	B	C	19K
Q6501	B	C	22F
Q6502	B	C	22F
Q6551	A	D	21G
Q7101	A	D	2P
Q7102	A	D	2I
Q7103	B	C	3O
Q7104	B	C	4O
Q7105	A	D	19P
RESISTOR			
R1	B	C	11L
R2	B	C	12L
R3	B	C	12M
R4	B	C	10N
R5	B	C	10M
R6	B	C	9M
R7	B	C	8N
R8	B	C	7M
R9	B	C	8M
R21	B	C	13J
R22	B	C	12J
R23	B	C	13L
R24	B	C	14L
R25	B	C	13L
R26	B	C	13M
R27	B	C	13L
R28	B	C	13M
R29	B	C	13M
R30	B	C	13L
R31	B	C	12L
R32	B	C	13L
R33	B	C	12M
R34	B	C	12M
R35	B	C	12M
R36	B	C	8M
R37	B	C	8M
R38	B	C	8M
R39	B	C	7M
R40	B	C	7N
R41	B	C	8N
R42	B	C	8N
R44	B	C	8N
R45	B	C	7M
R46	B	C	10N
R47	B	C	11O
R48	B	C	10O
R51	B	C	7M
R54	B	C	11M
R61	B	C	14N
R62	B	C	11M
R65	B	C	12L
R66	B	C	10P
R68	B	C	13L
R69	B	C	10M
R70	B	C	6O
R72	B	C	10O
R73	B	C	10O
R75	B	C	11M
R77	B	C	13K
R79	B	C	7M
R80	B	C	10O
R82	B	C	10P
R84	B	C	11P
R85	B	C	14N
R88	B	C	7M
R90	B	C	11M
R92	B	C	12L
R93	B	C	12M
R94	B	C	8N
R104	B	C	12M
R113	B	C	12L
R117	B	C	8M
R201	B	C	17C
R202	B	C	16B
R203	B	C	16B
R204	B	C	16B
R206	B	C	17C
R208	B	C	15B

REF.NO.	LOCATION		
R213	B	C	14C
R214	B	C	15C
R215	B	C	15C
R216	B	C	16C
R217	B	C	16C
R223	B	C	16C
R251	B	C	14A
R252	B	C	14B
R253	B	C	14C
R254	B	C	14B
R255	B	C	14C
R256	B	C	14C
R257	B	C	14C
R301	B	C	11O
R302	B	C	11O
R303	B	C	13N
R304	B	C	13N
R305	B	C	13O
R306	B	C	13O
R307	B	C	13O
R308	B	C	14O
R309	B	C	13P
R310	B	C	13O
R311	B	C	13P
R312	B	C	12P
R313	B	C	12O
R314	B	C	12P
R315	B	C	12P
R316	B	C	12P
R321	B	C	12O
R328	B	C	12P
R329	B	C	12O
R1701	B	C	14J
R1702	B	C	14J
R1703	B	C	13J
R1704	B	C	14I
R1705	B	C	14J
R1706	B	C	14I
R1707	B	C	14J
R1708	B	C	14J
R2003	B	C	6L
R2004	B	C	6L
R2006	B	C	7J
R2008	B	C	8K
R2009	B	C	8K
R2010	B	C	8K
R2011	B	C	15J
R2012	B	C	10J
R2013	B	C	12K
R2014	B	C	12K
R2015	B	C	12K
R2016	B	C	14K
R2017	B	C	15K
R2018	B	C	15J
R2019	B	C	15J
R2020	B	C	15J
R2021	B	C	15K
R2022	B	C	14M
R2023	B	C	14M
R2051	B	C	18H
R2052	B	C	18H
R2053	B	C	18H
R2054	B	C	19H
R2055	B	C	19I
R2056	B	C	18H
R2057	B	C	15I
R2058	B	C	15I
R2059	B	C	15I
R2060	B	C	15J
R2121	A	D	7L
R2202	B	C	6K
R2203	B	C	6K
R2204	B	C	7K
R2205	B	C	8K
R2206	B	C	6L
R2207	B	C	6K
R2215	B	C	7J
R2218	B	C	8J
R2222	B	C	8J
R2223	B	C	8J
R2224	B	C	8J
R2225	B	C	8J
R2226	B	C	8J
R2227	B	C	9J
R2228	B	C	7L
R2229	B	C	7L
R2230	B	C	8K
R2231	B	C	7K
R2251	B	C	9I
R2252	B	C	9J
R2281	B	C	12I
R2283	B	C	11I
R2284	B	C	11I
R2285	B	C	13J
R2286	B	C	12I
R2287	B	C	12I
R2288	B	C	13I
R2289	B	C	15I
R2290	B	C	13I
R2291	B	C	15E
R2601	B	C	17N
R2602	B	C	18N
R2603	B	C	17N
R2604	B	C	17M
R2605	B	C	18L
R2606	B	C	18N
R2607	B	C	18N
R2608	B	C	17M
R2609	B	C	17M
R2610	B	C	15N
R2611	B	C	16N
R2612	B	C	16N
R2613	B	C	16N
R2614	B	C	15M

REF.NO.	LOCATION		
R2615	B	C	16M
R2616	B	C	16M
R2617	B	C	17L
R2618	B	C	16L
R2619	B	C	15O
R2620	B	C	16P
R2621	B	C	16O
R2622	B	C	16O
R2623	B	C	17O
R2624	B	C	17O
R2625	B	C	16P
R2626	B	C	16N
R2627	B	C	16N
R2628	B	C	17N
R2629	B	C	16N
R2630	B	C	15O
R2631	B	C	17O
R2632	B	C	18O
R2633	B	C	18O
R2634	B	C	18O
R2635	B	C	18O
R2636	B	C	17N
R2637	B	C	18N
R2638	B	C	18N
R2639	B	C	18N
R2640	B	C	17L
R2641	A	D	15P
R2642	A	D	14P
R2643	B	C	17N
R2644	B	C	17M
R2645	B	C	17O
R2646	B	C	17N
R2647	B	C	17L
R2648	B	C	16N
R2649	B	C	16M
R2650	B	C	15P
R2651	B	C	15P
R2652	B	C	17O
R2653	B	C	17N
R2654	B	C	4F
R2655	B	C	18M
R2656	A	D	16H
R3011	B	C	7F
R3012	B	C	7F
R3013	B	C	7F
R3014	B	C	7E
R3015	B	C	6F
R3016	B	C	6F
R3017	B	C	6F
R3018	B	C	6F
R3019	B	C	6F
R3020	B	C	6F
R3021	B	C	5F
R3022	B	C	5E
R3025	B	C	6E
R3026	B	C	6E
R3027	B	C	6E
R3029	B	C	6D
R3030	B	C	6D
R3033	B	C	6D
R3034	B	C	7D
R3035	B	C	7D
R3036	B	C	6D
R3037	B	C	6D
R3038	B	C	6C
R3039	B	C	5C
R3040	B	C	6C
R3041	B	C	6C
R3042	B	C	6C
R3044	B	C	6C
R3046	B	C	6C
R3047	B	C	6C
R3048	B	C	6C
R3049	B	C	6C
R3050	B	C	7C
R3051	B	C	7C
R3052	B	C	7C
R3053	B	C	7C
R3054	B	C	7C
R3055	B	C	8C
R3056	B	C	8C
R3057	B	C	9C
R3058	B	C	9C
R3059	B	C	9C
R3060	B	C	9C
R3061	B	C	9C
R3062	B	C	9C
R3066	B	C	10C
R3069	B	C	9D
R3072	B	C	11C
R3073	B	C	11C
R3074	B	C	11C
R3075	B	C	11C
R3076	B	C	11D
R3077	B	C	11D
R3078	B	C	10D
R3079	B	C	11D
R3080	B	C	11D
R3081	B	C	10D
R3083	B	C	11D
R3085	B	C	11E
R3086	B	C	10E
R3087	B	C	11E
R3088	B	C	11E
R3089	B	C	11E
R3090	B	C	11E
R3091	B	C	11E
R3092	B	C	10E
R3093	B	C	10E
R3094	B	C	10E
R3095	B	C	10E
R3096	B	C	10E
R3097	B	C	9E
R3103	B	C	9F

REF.NO.	LOCATION		
R3104	B	C	10F
R3105	B	C	10F
R3201	B	C	5J
R3202	B	C	6I
R3203	B	C	5I
R3204	B	C	5I
R3205	B	C	12D
R3206	B	C	3E
R3207	B	C	19E
R3208	B	C	16B
R3209	B	C	15A
R3210	B	C	8B
R3211	B	C	7B
R3212	A	D	2F
R3213	B	C	2F
R3214	B	C	5E
R3215	B	C	5E
R3216	B	C	5E
R3217	B	C	5D
R3218	B	C	2E
R3219	B	C	2E
R3220	B	C	2D
R3222	B	C	1G
R3223	B	C	13C
R3224	B	C	13C
R3225	B	C	6E
R3226	B	C	6D
R3227	B	C	7B
R3228	B	C	7B
R3229	B	C	9D
R3230	B	C	10C
R3231	B	C	10C
R3235	B	C	7B
R3236	B	C	7B
R3237	B	C	2D
R3238	B	C	2C
R3239	B	C	2D
R3240	B	C	3C
R3241	B	C	6D
R3242	B	C	7D
R3243	B	C	8C
R3244	B	C	8C
R3245	B	C	8C
R3246	B	C	11C
R3247	B	C	14D
R3248	B	C	14D
R3249	B	C	14D
R3250	B	C	14D
R3251	B	C	14D
R3252	B	C	15D
R3254	B	C	14E
R3255	B	C	14E
R3256	B	C	14E
R3257	B	C	14E
R3258	B	C	14E
R3259	B	C	15E
R3260	B	C	15E
R3261	B	C	15D
R3262	B	C	15D
R3263	B	C	16D
R3264	B	C	16D
R3265	B	C	16D
R3266	B	C	16D
R3267	B	C	16D
R3268	B	C	15E
R3269	B	C	15E
R3270	B	C	16E
R3271	B	C	5D
R3272	B	C	5C
R3273	B	C	14F
R3274	B	C	4D
R3275	B	C	4D
R3276	B	C	4E
R3277	B	C	4D
R3278	B	C	4C
R3279	B	C	4C
R3280	B	C	4C
R3281	B	C	4E
R3282	B	C	2B
R3283	B	C	19B
R3284	B	C	20B
R3285	B	C	16F
R3286	B	C	4E
R3287	B	C	16A
R3288	B	C	17D
R3289	B	C	17F
R4001	B	C	10F
R4003	B	C	8F
R4004	B	C	8F
R4005	B	C	8F
R4007	B	C	7F
R4008	B	C	7E
R4009	B	C	10E
R4010	B	C	10F
R4011	B	C	9E
R4012	B	C	10F
R4013	B	C	9F
R4014	B	C	10F
R4015	B	C	10F
R4016	B	C	11F
R4017	B	C	9F
R4018	B	C	10F
R4019	B	C	10F
R4020	B	C	9F
R4021	B	C	10F
R5501	B	C	20I
R5502	A	D	20I
R5503	B	C	21J
R5504	B	C	21I
R5505	B	C	20J
R5506	B	C	21J
R5507	B	C	20J
R5508	B	C	20I
R5509	B	C	20H

REF.NO.	LOCATION		
R6020	B	C	19N
R6021	B	C	19N
R6022	B	C	19N
R6023	B	C	20N
R6024	B	C	20N
R6025	B	C	19N
R6030	B	C	20J
R6031	B	C	19J
R6032	B	C	19K
R6033	B	C	19K
R6034	B	C	20J
R6038	B	C	20L
R6060	B	C	19L
R6061	B	C	19L
R6201	B	C	21K
R6202	B	C	21K
R6203	B	C	22H
R6204	B	C	22H
R6221	B	C	21L
R6222	B	C	22N
R6501	B	C	20D
R6502	B	C	20D
R6503	B	C	20C
R6504	B	C	18E
R6505	B	C	20G
R6506	B	C	20E
R6507	B	C	20F
R6508	B	C	22F
R6509	B	C	22G
R6510	B	C	22F
R6511	B	C	22F
R6513	B	C	21F
R6514	B	C	20F
R6515	B	C	20F
R6551	B	C	22G
R6552	B	C	21G
R6553	B	C	21F
R6554	B	C	21F
R6601	B	C	21F
R6602	B	C	19C
R6603	B	C	20D
R6604	B	C	20F
R6650	B	C	19D
R6651	B	C	18E
R6652	B	C	18E
R6653	B	C	18E
R6654	B	C	18D
R6655	B	C	18D
R6656	B	C	18D
R6657	B	C	18D
R6658	B	C	17D
R6659	B	C	18D
R6660	B	C	17D
R7101	B	C	2P
R7102	B	C	2H
R7103	B	C	1I
R7104	B	C	3O
R7105	B	C	3O
R7106	B	C	2O
R7107	B	C	3O
R7108	B	C	4O
R7109	B	C	3O
R7110	B	C	4M
R7111	B	C	4M
R7112	B	C	4N
R7113	B	C	4N
R7114	B	C	9P
R7115	B	C	17P
R7116	B	C	18P
R7117	A	D	18P
R7118	B	C	8P
R7119	B	C	3L
R7120	B	C	6N
R7121	B	C	3M
R7122	B	C	8P
R7123	B	C	6O
R7124	B	C	6N
R7125	B	C	21M
R7126	B	C	17F
SWITCH			
S3002	A	D	5A
TEST POINT			
TP106	A	D	14O
TP2253	A	D	14O
TP4001	A	D	14O
TP7101	A	D	22B
OTHER			
CF6031	A	D	19J
CP3002	A	D	3G
CP4001	A	D	4J
CP6201	A	D	21H
K2001	B	C	11K
K2002	B	C	11K
K2003	B	C	15M
K2004	B	C	14M
K2251	B	C	10I
K2252	B	C	10J
K2253	B	C	10J
K6080	B	C	19N
LC6201	A	D	21K
LF251	A	D	14B
PC3001	A	D	15A
PC3002	A	D	8C
T2051	A	D	19H
TU6001	A	D	20P
TU6201	A	D	22O
VR6601	A	D	20C
WR601	A	D	4L
X1	A	D	8M
X2	A	D	8M
X3001	A	D	9C
X3002	A	D	9C

4.31 VOLTAGE CHARTS

<REG>

MODE PIN NO.	REC	PLAY
CN5301		
1	-7.3	-7.3
2	2.6	2.6
3	2.7	2.7
4	11.7	11.7
5	12.6	12.6
6	-0.1	-0.1
7	-0.1	-0.1
8	-0.1	-0.1
9	-0.1	-0.1
10	5.6	5.6
11	5.6	5.6
12	5.0	5.0
13	57.8	57.8
14	26.7	26.7
CN5302		
1	3.5	3.5
2	3.5	3.5
3	2.0	2.0
4	2.0	2.0
5	3.4	3.4
6	5.0	5.0
7	0	0
8	0	0
9	0	0
10	0	0
11	2.8	2.8
12	2.8	2.8
CN5303		
1	-14.5	-14.5
2	-27.1	-27.1
3	-18.2	-18.2
4	0	0
5	5.0	5.0

<SUB REG>

MODE PIN NO.	REC	PLAY
CN5501		
1	-7.3	-7.3
2	2.6	2.6
3	2.7	2.7
4	11.7	11.7
5	12.6	12.6
6	-0.1	-0.1
7	-0.1	-0.1
8	-0.1	-0.1
9	-0.1	-0.1
10	5.6	5.6
11	5.6	5.6
12	5.0	5.0
13	57.8	57.8
14	26.7	26.7
CN5502		
1	10.8	10.8
2	0	0
3	5.0	5.0
4	-7.3	-7.3
CN5503		
1	26.5	26.5
2	22.3	22.3
3	57.2	57.2
4	33.5	33.5
5	5.0	5.0
6	5.6	5.6
7	5.6	5.6
8	5.0	5.0
9	5.0	5.0
10	0	0
11	0	0
12	0	0
13	0	0
14	12.5	12.5
15	12.5	12.5
16	10.8	10.8
17	10.8	10.8
18	2.7	2.7
19	2.6	2.6
20	-7.3	-7.3
21	5.2	5.2
CN5504		
1	-	-
2	-	-

<MAIN>

MODE PIN NO.	REC	PLAY
IC3001		
1	2.6	2.4
2	0	0
3	2.2	2.4
4	2.4	2.4
5	0	0.6
6	2.4	2.4
7	2.4	2.4
8	2.4	2.4
9	4.8	4.8
10	4.8	4.8
11	4.9	4.9
12	0	0
13	4.6	4.6
14	0.6	0.6
15	2.9	0.6
16	0	0
17	4.5	4.5
18	0.2	0.2
19	0	0
20	0.2	0.2
21	0	4.1
22	0	0
23	0	0
24	4.8	4.8
25	0	0
26	4.9	4.9
27	4.8	4.8
28	4.8	4.8
29	5.0	5.0
30	4.4	4.4
31	0	0
32	0.6	0.6
33	0	0
34	4.2	4.2
35	0	0
36	0	0
37	0	0
38	0	0
39	1.8	2.4
40	2.2	2.2
41	2.2	2.2
42	4.9	4.9
43	0	0
44	0	0
45	4.8	4.8
46	5.0	5.0
47	0.2	0.2
48	4.6	4.6
49	4.4	4.4
50	4.5	4.5
51	4.4	4.4
52	4.4	4.4
53	4.9	4.9
54	-	-
55	-	-
56	0	0
57	3.6	3.6
58	4.8	4.8
59	0	0
60	4.7	4.7
61	0	0
62	0	0
63	0	0
64	1.4	1.4
65	0.7	0.7
66	4.9	4.9
67	2.4	2.4
68	0	0
69	2.4	2.4
70	4.8	4.8
71	4.8	4.8
72	0	0
73	0	0
74	4.8	4.8
75	4.0	4.0
76	3.8	3.8
77	4.8	4.8
78	0	2.4
79	0	0
80	0	0
81	4.8	0
82	4.8	4.8
83	0	0
84	0	0
85	0	4.8
86	0	0
87	4.8	4.8
88	4.8	0
89	0	0
90	2.5	2.5
91	-	-
92	0	0
93	-	-
94	0	0
95	0	0
96	0	0
97	0	0
98	0	0.4
99	2.4	2.4
100	2.4	2.4
101	2.6	2.6
102	1.2	1.2
103	0	0
104	0	0
105	0	0
106	4.7	4.7
107	0	0
108	1.4	1.4
109	4.8	4.8
110	0	0
111	0	0
112	2.4	2.4
CN1		
1	0	0
2	0	0
3	0	0
4	0	0
5	0.2	0
6	0	0
7	0	0
8	0	0
9	0.2	0
10	0	0
11	0	0
CN901		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.2	2.4
7	2.2	2.4
CN2002		
1	0	0
2	0	0
CN3001		
1	12.5	12.5
2	0	0
3	1.3	1.3
4	0	0
5	1.4	1.4
CN3002		
1	0	0
2	0	0
CN3003		
1	0	0
2	0	2.5
3	2.5	2.5
4	4.8	4.8
5	2.6	0
6	4.8	4.8
7	-	-
8	11.0	11.0
CN3004		
1	4.8	4.8
2	4.8	4.8
3	0	0
4	0	0
CN3008		
1	4.8	4.8
2	0	0
3	4.8	4.8
4	4.6	4.6
5	5.0	5.0
6	0	0
7	4.2	0
8	5.0	5.0
9	0	0
10	4.8	4.8
CN3009		
1	4.4	4.4
2	0	0
3	4.9	4.9
4	3.7	3.7
5	0	0
6	-	-
7	2.5	2.5
8	0	2.4
9	2.4	2.4
10	4.8	4.8
11	0	0
12	0	0
13	0	0
14	0	0
15	3.1	3.1
16	0	0
CN3010		
1	0	0
2	4.8	4.8
3	0	0
4	4.8	4.8
5	0	0
6	5.0	5.0
CN3011		
1	0	0
2	0	0
3	0	0
4	4.8	4.8
5	4.8	0
6	2.4	2.4
7	0.4	1.0
8	2.2	0.8
9	0	0
10	4.9	4.9
11	0.8	0.8
12	0.4	0
13	2.4	2.4
14	0	0
CN5601		
1	5.2	5.2
2	-7.3	-7.3
3	2.6	2.6
4	2.7	2.7
5	10.8	10.8
6	10.8	10.8
7	12.5	12.5
8	12.5	12.5
9	0	0
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	5.0	5.0
15	5.6	5.6
16	5.6	5.6
17	5.0	5.0
18	33.5	33.5
19	57.2	57.2
20	22.3	22.3
21	26.5	26.5
CN7103		
1	0	4.9
2	4.5	4.5
3	4.5	4.5
4	2.0	2.0
5	4.9	4.9
6	4.9	4.9
7	0	0
8	0	0
9	4.3	2.4
10	2.1	2.1
11	3.3	3.3
12	2.8	2.8
13	2.8	2.8
14	0	0
15	0	0
16	2.4	2.2
17	1.3	2.3
18	4.5	4.5
19	0	0
20	0	0
21	0.2	0.2
22	0	0
23	0.2	0.2
24	0	0
25	2.3	2.3
26	0	0
27	2.5	2.3
28	0	0
29	3.5	2.4
30	2.8	2.8
CN7104		
1	2.0	2.0
2	0	0
3	4.3	2.3
4	4.9	4.9
5	2.1	2.1
6	0	4.9
7	3.3	3.3
8	0	0
9	2.8	2.8
10	0	0
11	4.5	4.5
12	4.5	4.5
13	0	0
14	0.7	0.7
15	2.4	2.4
16	0	0
17	0	0
CN7105		
1	0	0
2	0	0
3	0.2	0.2
4	0	0
5	0	0
6	0.2	0.2
7	0	0
8	0	0
9	0	0
10	0.2	0.2
11	4.9	4.9
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
CN7106		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
CN7107		
1	2.2	2.2
2	0	0
3	2.4	2.4
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
CN7109		
1	0	0
2	2.3	2.0
3	0	0
4	0	2.4
5	0	0
6	2.2	2.2
7	0	0
8	0.2	0.2
9	0	0
10	0	0
11	0	0
12	0.2	0.2
13	0	0
14	0	0

<3D DIGITAL/4M>

MODE PIN NO.	REC	PLAY
CN1401		
1	2.0	2.0
2	0	0
3	4.3	2.3
4	4.9	4.9
5	2.1	2.1
6	0	4.9
7	3.3	3.3
8	0	0
9	2.8	2.8
10	0	0
11	4.5	4.5
12	4.5	4.5
13	0	0
14	0.7	0.7
15	2.4	2.4
16	0	0
17	0	0

<TERMINAL-NTSC>

MODE PIN NO.	REC	PLAY
CN7101		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
CN7102		
1	0	0
2	0	0
3	0.2	0.2
4	0	0
5	0	0
6	0.2	0.2
7	0	0
8	0	0
9	0	0
10	0.2	0.2
11	4.9	4.9
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
CN7104		
1	1.7	1.3
2	0	0
3	2.0	2.0
4	0	0
5	2.0	2.0
6	0	0
7	1.6	1.6
8	0	0
9	1.9	1.5

<S-SUB>

MODE PIN NO.	REC	PLAY
CN511		
1	0	4.9
2	4.5	4.5
3	4.5	4.5
4	2.0	2.0
5	4.9	4.9
6	4.9	4.9
7	0	0
8	0	0
9	4.3	2.4
10	2.1	2.1
11	3.3	3.3
12	2.8	2.8
13	2.8	2.8
14	0	0
15	0	0
16	2.4	2.2
17	1.3	2.3
18	4.5	4.5
19	0	0
20	0	0
21	0.2	0.2
22	0	0
23	0.2	0.2
24	0	0
25	2.3	2.3
26	0	0
27	2.5	2.3
28	0	0
29	3.5	2.4
30	2.8	2.8
CN512		
1	0	0
2	2.3	2.0
3	0	0
4	0	2.4
5	0	0
6	2.2	2.2
7	0	0
8	0.2	0.2
9	0	0
10	0	0
11	0	0
12	0.2	0.2
13	0	0
14	0	0

<DISPLAY>

MODE PIN NO.	REC	PLAY
CN7002		
1	4.8	4.8
2	0	0
3	5.0	5.0
4	4.2	4.2
5	0	0
6	5.0	5.0
7	4.6	4.6
8	4.8	4.8
9	0	0
10	4.8	4.8
CN7005		
1	5.0	5.0
2	0	0
3	-18.2	-18.2
4	-27.1	-27.1
5	-14.5	-14.5
FW7001		
1	4.8	4.8
2	0	0
3	4.8	4.8

<REC SAFETY/D.CASS SW>

MODE PIN NO.	REC	PLAY
FW7081		
1	4.8	4.8
2	0	0
3	4.8	4.8

<JACK>

MODE PIN NO.	REC	PLAY
CN7191		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0

<D-PRE/REC>

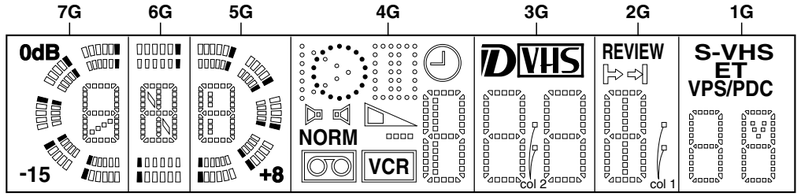
MODE PIN NO.	REC	PLAY
CN601		
1	0.6	0.6
2	0	0
3	0	0
4	0	0
CN603		
1	0.6	0.6
2	0	0
3	0	0
4	0	0
CN605		
1	0	0
2	0	0
3	0	0
4	4.8	4.8
5	4.8	0
6	2.4	2.4
7	0.4	1.0
8	2.2	0.8
9	0	0
10	4.9	4.9
11	0.8	0.8
12	0.4	0
13	2.4	2.4
14	0	0
CN606	-	-

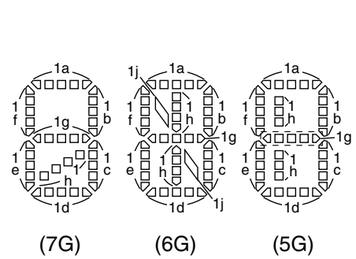
<DIGITAL.>

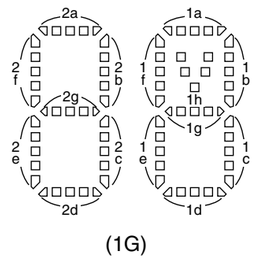
MODE PIN NO.	REC	PLAY
CN401		
1	0.6	0.8
2	0	0
3	0	0.8
4	0	0
CN402		
1	0.6	0.6
2	0	0
3	0	0
4	0	0
CN8001		
1	0	0
2	0	0
3	0	0
4	3.4	3.4
5	3.4	3.4
6	0	0
7	3.4	3.4
8	0	0
9	3.4	3.4
10	2.5	2.5
11	0	0
12	0	0
CN8002		
1	0	0
2	3.1	3.1
3	0	0
4	0	0
5	0	0
6	0	0
7	4.8	4.8
8	0	2.4
9	2.4	2.4
10	2.5	2.5
11	-	-
12	0	0
13	3.7	3.7
14	4.9	4.9
15	0	0
16	4.4	4.4
CN8003		
1	0	0
2	0	0
3	0	0
4	2.4	2.4
5	2.4	2.4
CN8201		
1	0	0
2	0	0
3	0	0
4	2.2	2.2
5	2.2	2.2
6	0	0
CN8801		
1	10.8	10.8
2	0	0
3	5.0	5.0
4	-7.3	-7.3
CN8802		
1	3.5	3.5
2	3.5	3.5
3	2.0	2.0
4	2.0	2.0
5	3.4	3.4
6	5.0	5.0
7	0	0
8	0	0
9	0	0
10	0	0
11	2.8	2.8
12	2.8	2.8
CN8803		
1	1.9	1.5
2	0	0
3	1.6	1.6
4	0	0
5	2.0	2.0
6	0	0
7	2.0	2.0
8	0	0
9	1.7	1.3
CN9801		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	2.4	2.4
11	0	0
12	2.2	2.2

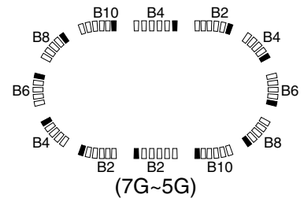
4.32 FDP GRID ASSIGNMENT AND ANODE CONNECTION

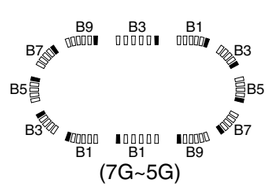
GRID ASSIGNMENT

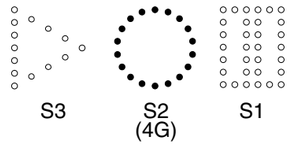


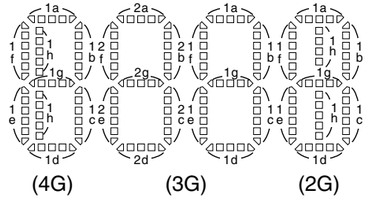










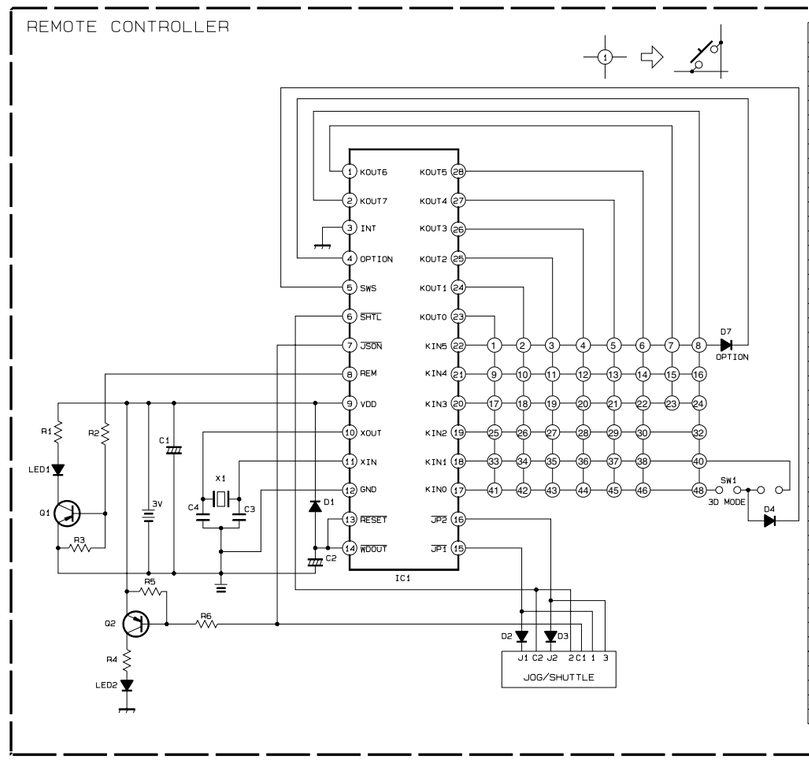


ANODE CONNECTION

	7G	6G	5G	4G	3G	2G	1G
P1	1a	1a	1a	1a	1a	1a	1a
P2	1b	1b	1b	1b	1b	1b	1b
P3	1f	1f	1f	1f	1f	1f	1f
P4	1g	1g	1g	1g	1g	1g	1g
P5	1c	1c	1c	1c	1c	1c	1c
P6	1e	1e	1e	1e	1e	1e	1e
P7	1d	1d	1d	1d	1d	1d	1d
P8	1h	1h	1h	1h	col 2	1h	1h
P9	B1	B1	B1	□□□□	2a	col 1	2a
P10	B2	B2	B2	🕘	2b	–	2b
P11	B3	B3	B3	◺	2f	–	2f
P12	B4	B4	B4	S1	2g	–	2g
P13	B5	–	B5	S2	2c	–	2c
P14	B6	–	B6	S3	2e	–	2e
P15	B7	–	B7	▷	2d	–	2d
P16	B8	–	B8	🔊	DVHS	REVIEW	S-VHS
P17	B9	–	B9	VCR	–	⇨	ET
P18	B10	1j	B10	NORM	–	⇦	–
P19	0dB -15	–	+8	📼	–	–	VPS/PDC

4.33 REMOTE CONTROLLER SCHEMATIC DIAGRAM

NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
   Avoid replacing individual parts.
   Replace the entire unit only.



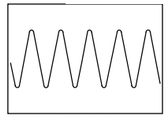
(LP20465-013#)

Key No.	Key Name
1	POWER
2	3
3	9
4	DATE +
5	PROG(CH) −
6	PROG CHECK
7	PAUSE
8	>>/TV VOL +
9	ENTER
10	6
11	TIMER(2 −)
12	PROG(CH) +
13	SKIP
14	FF
15	JOG/SHUTTLE
16	RE −VIEW
17	DISPLAY
18	5
19	0
20	STOP −
21	DATE −
22	PLAY
23	△/TV PROG+
24	NAVIGATION
25	AUDIO/MUTE
26	2
27	8
28	STOP +
29	SP/EP(−/− −)
30	STOP
32	▽/TV PROG−
33	TV/VCR
34	1
35	7
36	START +
37	PROG.
38	REC
40	OK
41	A/B
42	4
43	CANCEL(1 −)
44	START −
45	REW
46	MENU
48	<< /TV VOL −
38 +22	REC +START
38 +7	REC +PAUSE

4.34 WAVEFORMS

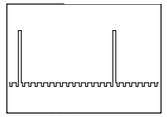
< SYSCON >

WF1 CN3003-2 CAP_FG



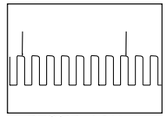
REC/PB 3.2 Vp-p
50 mV/0.5 msec/DIV

WF2 CN3001-4 D.PG



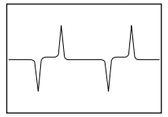
REC/PB 4.8 Vp-p
0.1 V/10 msec/DIV

WF3 CN3001-5 D.FG



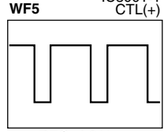
REC/PB 4.6 Vp-p
0.1 V/10 msec/DIV

WF4 TP4001 CTL.P



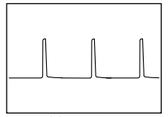
PB 2.3 Vp-p
50 mV/10 msec/DIV

WF5 IC3001-1 CTL(+)



REC 4.0 Vp-p
0.1 V/10 msec/DIV

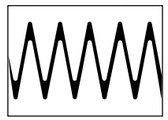
WF6 IC3001-98 C.SYNC



REC/PB 4.2 Vp-p
0.1 V/20 µsec/DIV

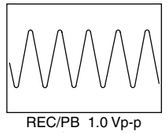
< AUDIO >

WF1 IC1-79



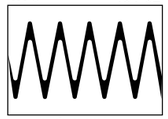
REC 0.24 Vp-p
5 mV/0.5 msec/DIV

WF2 IC1-62



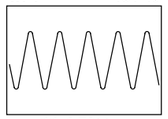
REC/PB 1.0 Vp-p
20 mV/0.5 msec/DIV

WF3 IC1-52



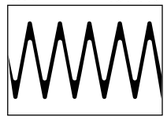
REC 0.22 Vp-p
2 mV/0.5 msec/DIV

WF4 IC1-48



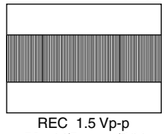
PB 0.76 Vp-p
20 mV/0.5 msec/DIV

WF5 IC1-119



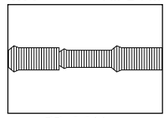
REC 0.96 Vp-p
20 mV/0.5 msec/DIV

WF6 IC1-97



REC 1.5 Vp-p
50 mV/5 msec/DIV

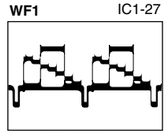
WF7 TP2253 A.PB FM



PB 0.6 Vp-p
50 mV/5 msec/DIV

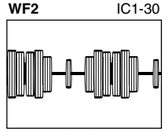
< VIDEO (MAIN) >

WF1 IC1-27



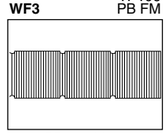
PB 2.3 Vp-p
50 mV/20 µsec/DIV

WF2 IC1-30



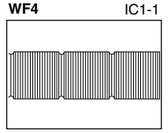
PB 0.72 Vp-p
20 mV/20 µsec/DIV

WF3 TP106 PB FM



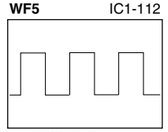
PB 0.7 Vp-p
50 mV/5 msec/DIV

WF4 IC1-1



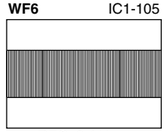
PB 0.7 Vp-p
20 mV/5 msec/DIV

WF5 IC1-112



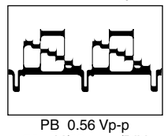
REC/PB 0.3 Vp-p
0.1 V/10 msec/DIV

WF6 IC1-105



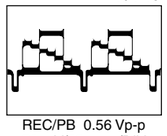
REC 2.4 Vp-p
0.1 V/1 msec/DIV

WF7 IC1-14



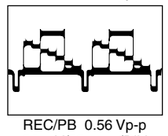
PB 0.56 Vp-p
20 mV/20 µsec/DIV

WF8 IC1-13



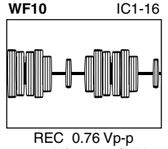
REC/PB 0.56 Vp-p
20 mV/20 µsec/DIV

WF9 IC1-11



REC/PB 0.56 Vp-p
20 mV/20 µsec/DIV

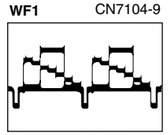
WF10 IC1-16



REC 0.76 Vp-p
20 mV/20 µsec/DIV

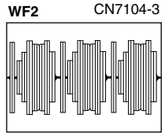
< VIDEO (TERMINAL) >

WF1 CN7104-9



REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV

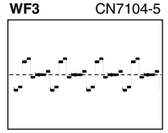
WF2 CN7104-3



REC/PB 1.2 Vp-p
50 mV/20 µsec/DIV

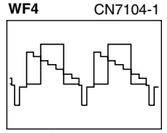
< VIDEO (S-SUB) >

WF3 CN7104-5



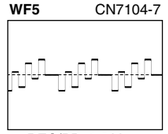
REC/PB 1.3 Vp-p
50 mV/20 µsec/DIV

WF4 CN7104-1



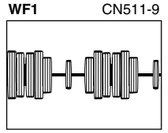
REC/PB 2.3 Vp-p
50 mV/20 µsec/DIV

WF5 CN7104-7



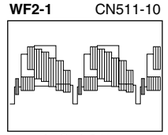
REC/PB 1.2 Vp-p
50 mV/20 µsec/DIV

WF1 CN511-9



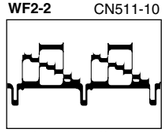
PB 1.5 Vp-p
50 mV/20 µsec/DIV

WF2-1 CN511-10



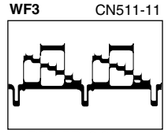
REC 1.8 Vp-p
50 mV/20 µsec/DIV

WF2-2 CN511-10



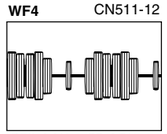
REC/PB 1.8 Vp-p
50 mV/20 µsec/DIV

WF3 CN511-11



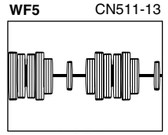
REC/PB 0.8 Vp-p
20 mV/20 µsec/DIV

WF4 CN511-12



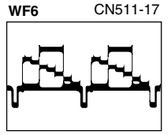
REC 0.6 Vp-p/PB 0.7 V p-p
20 mV/20 µsec/DIV

WF5 CN511-13



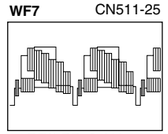
PB 0.7 Vp-p
20 mV/20 µsec/DIV

WF6 CN511-17



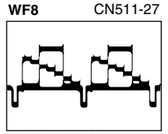
PB 2.2 Vp-p
50 mV/20 µsec/DIV

WF7 CN511-25



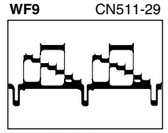
REC/PB 2.4 Vp-p
50 mV/20 µsec/DIV

WF8 CN511-27



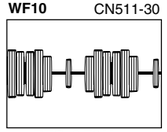
REC/PB 0.6 Vp-p
20 mV/20 µsec/DIV

WF9 CN511-29



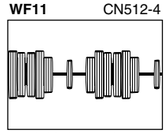
PB 0.6 Vp-p
20 mV/20 µsec/DIV

WF10 CN511-30



REC 0.76 Vp-p
20 mV/20 µsec/DIV

WF11 CN512-4

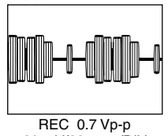


REC/PB 1.5 Vp-p
50 mV/20 µsec/DIV

WF12 CN512-6

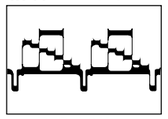
REC/PB 2.3 Vp-p
50 mV/20 µsec/DIV

WF13 CN512-12



REC 0.7 Vp-p
20 mV/20 µsec/DIV

WF14 CN512-14



REC 1.0 Vp-p
20 mV/20 µsec/DIV

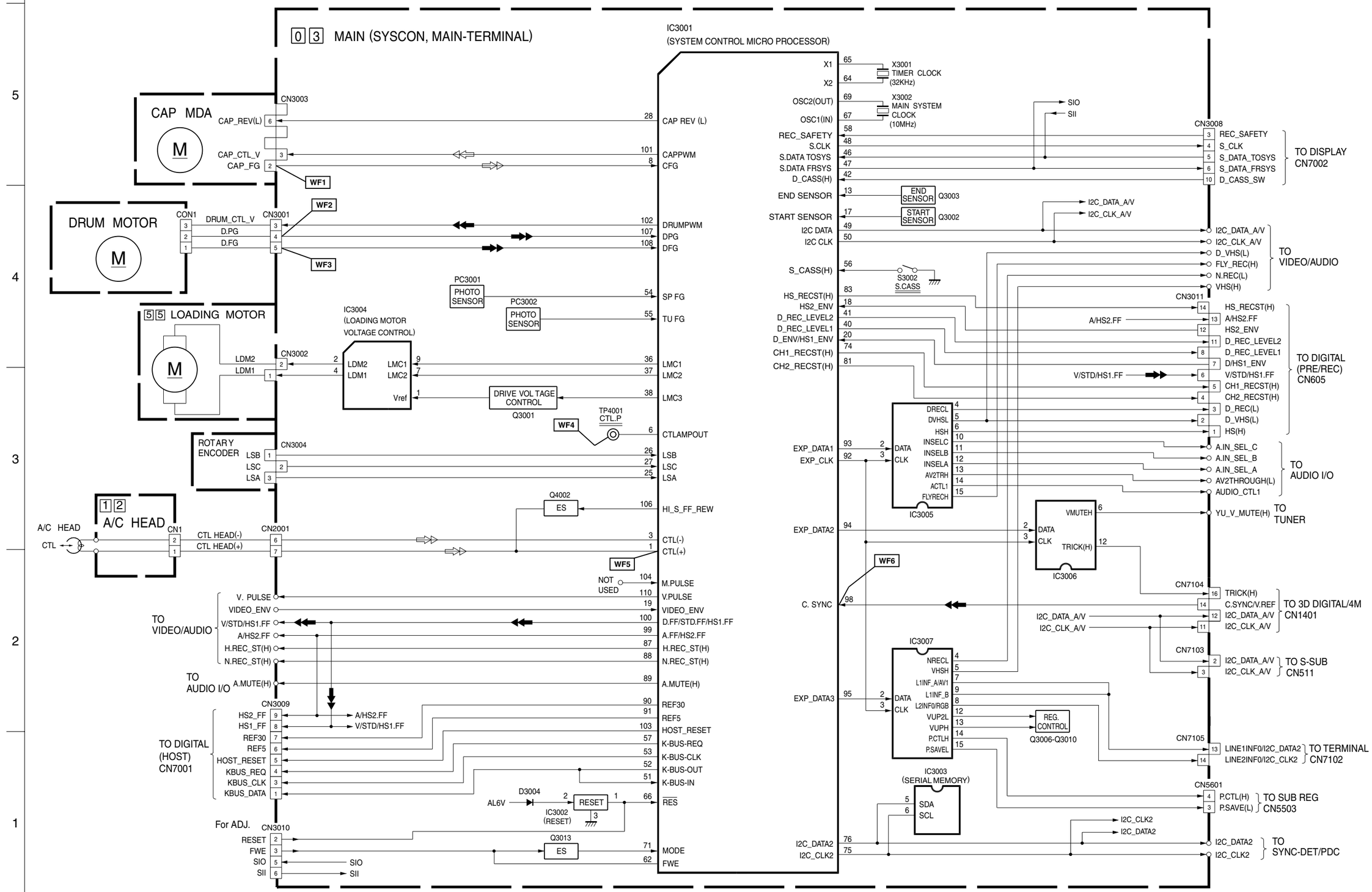
4.35 CPU PIN FUNCTION

<SYSCON IC3001>

PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN/OUT	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(-)	IN/OUT	CTL(-) SIGNAL
4	CTLBIAS	-	CTL BIAS VOLTAGE
5	CTLFB	IN	CTL PULSE FEEDBACK
6	CTLAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLSMTIN	IN	CTL PULSE INPUT
8	CFG	IN	CAPSTAN FG PULSE INPUT
9	SVcc	-	SYSTEM POWER
10	Avcc	-	ANALOG POWER
11	LED/RFAGC/LOCK	IN	NC/NC/TUNING PLL LOCK DETECT:L
12	BS_ANT/AFC	IN	NC/TUNING CHECK
13	END SENSOR	IN	END SENSOR
14	IND(L)	IN	AUDIO INPUT(L CH) FOR THE FDP AUDIO INDICATOR
15	IND(R)	IN	AUDIO INPUT(R CH) FOR THE FDP AUDIO INDICATOR
16	A.ENV/ND(L)	IN	AUDIO PB FM ENV. INPUT/NON HiFi MODEL:L
17	START SENSOR	IN	START SENSOR
18	HS2_ENV	IN	AT DETECTION
19	VIDEO ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
20	D_ENV/HS1_ENV	IN	PB FM INPUT / AT DETECTION
21	NORM/MESEC/S	IN	S.VHS MODE:HÂiNORMAL MODE:L/MESECAM MODE:L/NCÂj
22	WAID_DET/SCR_ID	IN	WIDE ASPECT DETECTION/NC
23	Avss	-	GND FOR ANALOG CIRCUIT
24	CTL GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCHING
25	LSA	IN	MECHANISM MODE DETECT(A)
26	LSB	IN	MECHANISM MODE DETECT(B)
27	LSC	IN	MECHANISM MODE DETECT(C)
28	CAP REV(L)	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:H/REV:L)
29	RC	IN	REMOTE CONTROL DATA INPUT
30	PROTECT	IN	DETECTION SIGNAL FOR SWITCHING POWER SUPPLY
31	BILSEL/P50I/OSDCE	IN	NC/CONTROL SIGNAL FOR TV LINK/NC
32	PAUSE/COMPU_IN	IN	REMOTE PAUSE CONTROL/NC
33	COMPU/P50_OUT/TEST	OUT	CONTROL SIGNAL FOR TV LINK/CONTROL SIGNAL FOR TV LINK/ MECHA TEST MODE
34	STB	OUT	STROBE SIGNAL
35	POWER_DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
36	LMC1	OUT	LOADING MOTOR DRIVE(1)
37	LMC2	OUT	LOADING MOTOR DRIVE(2)
38	LMC3	OUT	LOADING MOTOR DRIVE(3)
39	SB_GAIN	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
40	D_REC_LEVEL1	OUT	LEVEL1 CONTROL SIGNAL OF D-VHS RECORDING
41	D_REC_LEVEL2	OUT	LEVEL2 CONTROL SIGNAL OF D-VHS RECORDING
42	D_CASS(H)	IN	DETECTION SIGNAL FOR D-VHS CASSETTE (DETECTION:H)
43	Vss	-	GND
44	RMO	OUT	REMOTE CONTROL OUTPUT FOR SATELLITE RECEIVER
45	Vcc	-	SYSTEM POWER
46	S.DATA TOSYS	IN	SERIAL DATA TRANSFER OUTPUT FROM THE ON-SCREEN IC TO THE FDP DRIVER
47	S.DATA FRSYS	OUT	SERIAL DATA TRANSFER OUTPUT FROM THE FDP DRIVER TO THE ON-SCREEN IC
48	S.CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FROM THE FDP DRIVER TO THE ON-SCREEN IC
49	I2C DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE VIDEO/AUDIO IC
50	I2C CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR THE VIDEO/AUDIO IC
51	K-BUS_IN	IN	SERIAL DATA INPUT FOR THE D-VHS HOST CPU
52	K-BUS_OUT	OUT	SERIAL DATA OUTPUT FOR THE D-VHS HOST CPU
53	K-BUS_CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FOR THE D-VHS HOST CPU
54	SP FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
55	TU FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
56	S_CASS(H)	IN	DETECTION SIGNAL FOR S-VHS CASSETTE

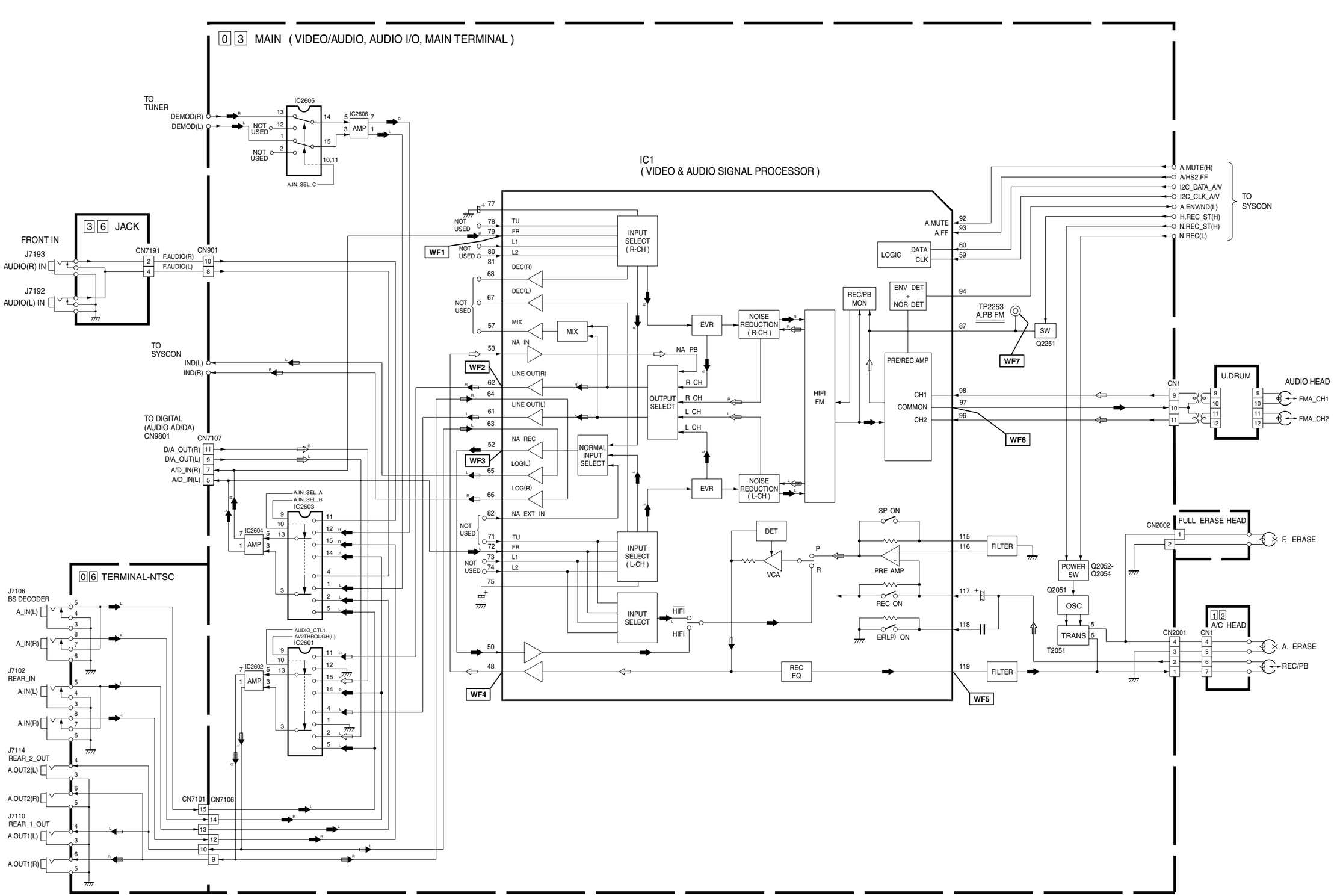
PIN NO.	LABEL	IN/OUT	FUNCTION
57	K-BUS_REQ	OUT	REQUEST OF SERIAL DATA FOR THE D-VHS HOST CPU
58	REC SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
59	JUSTCLK/LN21	-	NC/NC
60	TU_A_MUTE(H)	OUT	TUNER AUDIO MUTE CONTROL (MUTE: H)
61	TU_CE	OUT	CHIP ENABLE OF THE TUNER UNIT
62	FWE	-	NC
63	NMI	-	NC
64	X2	-	TIMER CLOCK(32kHz)
65	X1	-	TIMER CLOCK(32kHz)
66	RES	-	RESET TERMINAL (RESET ON:L)
67	OSC1(IN)	-	MAIN SYSTEM CLOCK (10MHZ)
68	Vss	-	GND
69	OSC2(OUT)	-	MAIN SYSTEM CLOCK (10MHZ)
70	Vcc	-	SYSTEM POWER
71	MODE	-	NC
72	TU_CLK	OUT	CLOCK FOR DATA TRANSFER TO THE TUNER UNIT
73	TU_DATA	OUT	TUNING DATA
74	CH1_RECST(H)	OUT	REC START CONTROL FOR CH1
75	I2C CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
76	I2C DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
77	AT_ON	OUT	D-VHS LS3 REC TIMING CONTROL
78	SLOW_P	OUT	MEMORY TIMING CONTROL IN THE SLOW MODE
79	FLY_ON (H)	OUT	FLY REC START: FH
80	VP_CTL	OUT	V.PULSE CONTROL,V COMPENSATION DURING SPECIAL PLAYBACK
81	CH2_RECST(H)	OUT	REC START CONTROL FOR CH2
82	Vcc	-	SYSTEM POWER
83	HS_RECST(L)	OUT	D-VHS HS RECORDING START
84	Vss	-	GND
85	SP_SHORT(H)	OUT	MODE SELECT
86	LP_SHORT(H)	OUT	MODE SELECT
87	H.REC_ST(H)	OUT	Hi-Fi AUDIO SOUND RECORDING START
88	N.REC_ST(H)	OUT	NORMAL AUDIO SOUND RECORDING START
89	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE ON: H)
90	REF30	IN	REFERENCE SIGNAL INPUT (30HZ)
91	REF5	IN	REFERENCE SIGNAL INPUT (5HZ)
92	EXP_CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR AUDIO/VIDEO AND TUNER/ REG CONTROL
93	EXP_DATA1	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR AUDIO/VIDEO CONTROL
94	EXP_DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR TUNER/REG CONTROL
95	EXP_DATA3	IN/OUT	SERIAL DATA TRANSFER OUTPUT
96	BIT_IN(H)/SECAM_DET	-	NC/NC
97	SYNC_DET	IN	DETECTION OF VIDEO SYNC SIGNAL(DETECTED:H)
98	C.SYNC	IN	COMPOSITE SYNC
99	A.FF/HS2.FF	OUT	AUDIO FF OUTPUT
100	D.FF/STD.FF/HS1.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/TIMING CONTROL SIGNAL FOR REC
101	CAPPWM	OUT	CAPSTAN MOTOR CONTROL
102	DRUMPWM	OUT	DRUM MOTOR CONTROL
103	HOST_RESET	OUT	RESET CONTROL FOR D-VHS HOST CPU
104	M.PULSE/EDSCE	OUT	NC/NC
105	REC_AREA	OUT	D-VHS REC AREA CTL(STD MODE:H)
106	HI_S_FF_REW	OUT	DETECTION OF HIGH SPEED FF/REW SIGNAL
107	DPG	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
108	DFG	IN	DRUM FG PULSE INPUT
109	Vcc	-	SYSTEM POWER
110	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
111	Vss	-	GND
112	CTLREF	-	CTL REFERENCE VOLTAGE

4.36 SYSTEM CONTROL BLOCK DIAGRAM



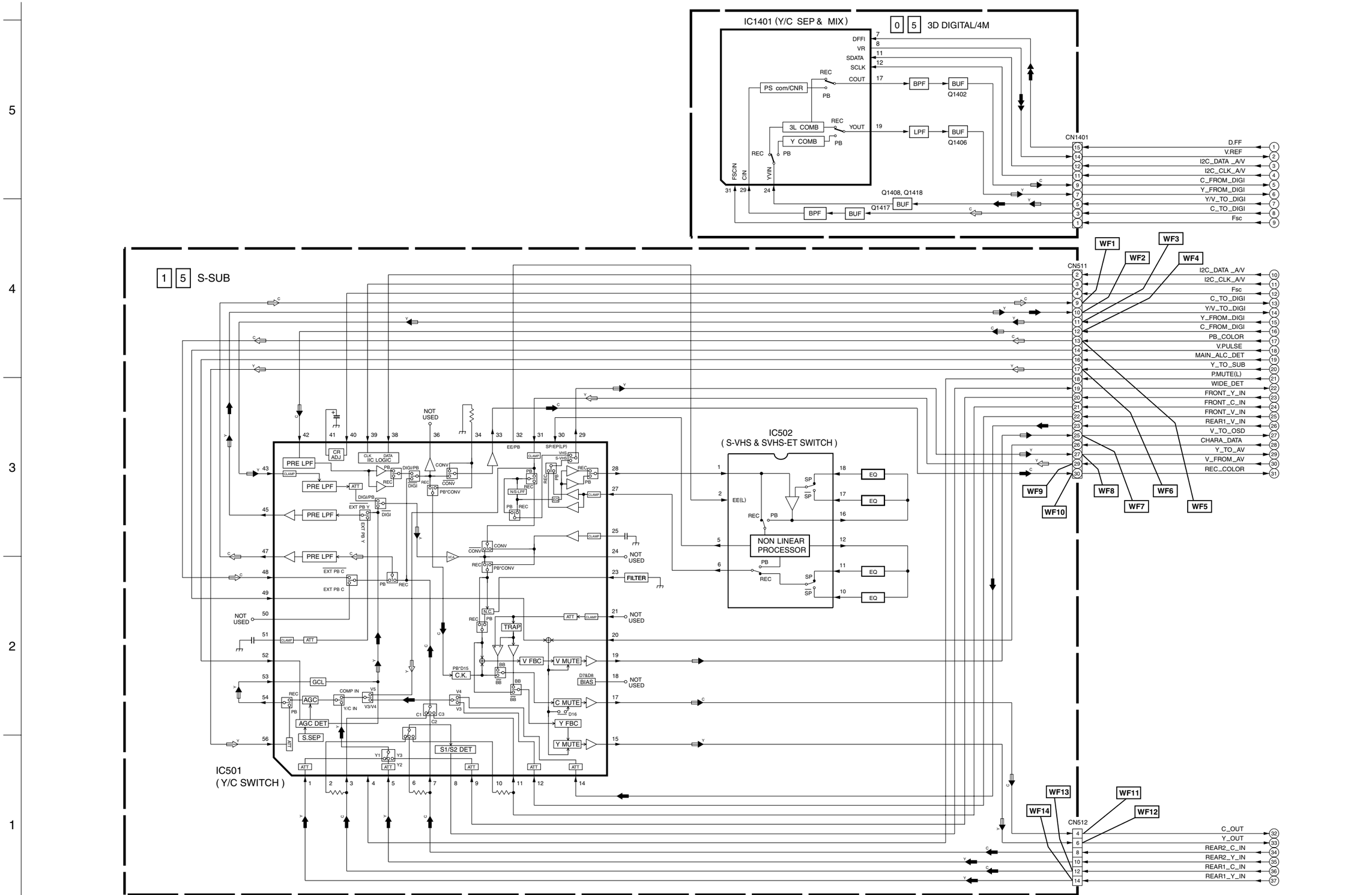
Note : For the waveforms in this block diagram, refer to page 4-67.

4.37 AUDIO BLOCK DIAGRAM



Note : For the waveforms in this block diagram, refer to page 4-67.

4.38 VIDEO BLOCK DIAGRAM



Note : For the waveforms in this block diagram, refer to page 4-67.

0 3 MAIN (VIDEO, SYNCDET, MAIN-TERMINAL)

TO SYSCON: V.PULSE, I2C_DATA_A/V, I2C_CLK_A/V, SYNC_DET, WIDE_DET/SCR_ID, C.SYNC/V.REF

Q251-Q253 SYNC DET

CN7104: D.FF, V.REF, I2C_DATA_A/V, I2C_CLK_A/V, C_FROM_DIGI, Y_FROM_DIGI, Y/V_TO_DIGI, C_TO_DIGI, Fsc

CN7103: I2C_DATA_A/V, I2C_CLK_A/V, Fsc, C_TO_DIGI, Y/V_TO_DIGI, Y_FROM_DIGI, C_FROM_DIGI, PB_COLOR, V.PULSE, MAIN_ALC_DET, Y_TO_SUB, P.MUTE(L), WIDE_DET, FRONT_Y_IN, FRONT_C_IN, FRONT_V_IN, REAR1_V_IN, V_TO_OSD, CHARA_DATA, Y_TO_AV, V_FROM_AV, REC_COLOR

V/STD/HS1.FF, Fsc

J7194 S IN — 3 6 JACK — CN7191 — FRONT_Y_IN, FRONT_C_IN, FRONT_V_IN — CN901

J7191 VIDEO IN

TO TUNER/DEMOD: TU_VIDEO

TO DIGITAL (AUDIO AD/DA) CN9801: CN7107 Y_IN, C_IN; TP7101 Y_OUT

CN7109: C_OUT, Y_OUT, REAR2_C_IN, REAR2_Y_IN, REAR1_C_IN, REAR1_Y_IN

WF1 WF2 WF3 WF4 WF5 WF6 WF7 WF8 WF9 WF10 WF11

TP106 PB FM

IC1 (VIDEO & AUDIO SIGNAL PROCESSOR)

TO SYSCON: V/STD/HS1.FF, VIDEO_ENV; NORM/MESEC/S, VHS(H), P.MUTE(L)

U.DRUM — CN1 — VIDEO HEAD: SP CH2, SP CH1, EP(LP) CH1, EP(LP) CH1

0 6 TERMINAL-NTSC

TO DIGITAL (VIDEO IF) CN8803 — CN7104: D-Y_OUT, Cb_OUT, Cr_OUT, Y_OUT, C_OUT

IC7103, IC7102, IC7101

J7127 Y_OUT, Cb_OUT, Cr_OUT

J7110 V_OUT1

J7114 V_OUT2

J7109 S_OUT1

J7113 S_OUT2

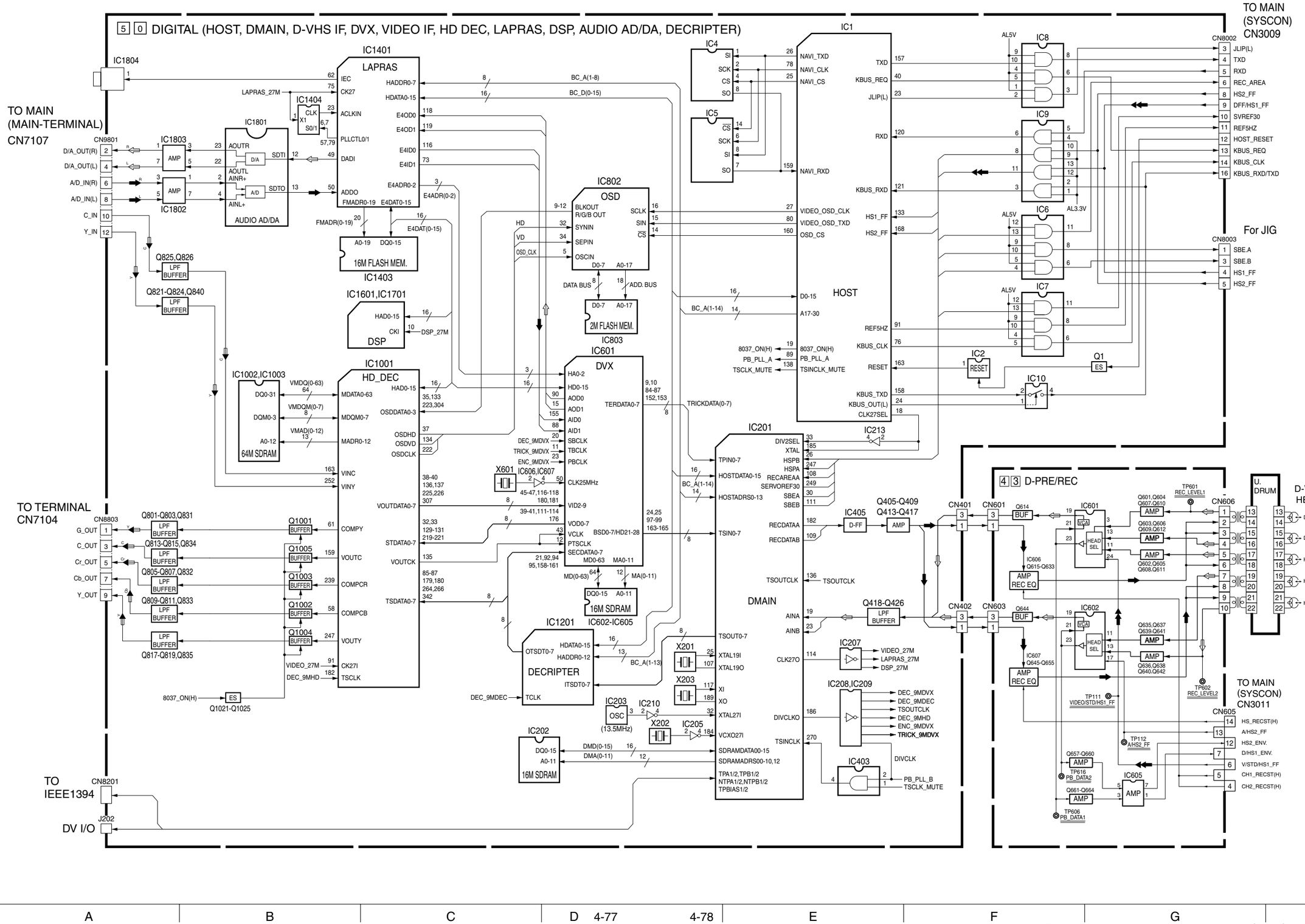
J7102 V_IN

J7106 BSDEC.V_IN

J7105 BSDEC.S_IN

J7101 S_IN

CN7105 CN7102

Note : For the waveforms in this block diagram, refer to page 4-67.

4.39 D-VHS BLOCK DIAGRAM